

(FILE 'HOME' ENTERED AT 10:57:59 ON 03 SEP 2002)

FILE 'CAPLUS' ENTERED AT 10:58:08 ON 03 SEP 2002

L1 245 S POLYACETAL AND FORMALDEHYDE
L2 359 S POLYACETAL? AND ?FORMALDEHYDE?
L3 8 S ?GLYCIDYL? AND L2

FILE 'DPCI' ENTERED AT 11:14:50 ON 03 SEP 2002

L4 1 S JP08012734/PN
L5 5 S TAJIMA?/IN AND OKAWA?/IN

FILE 'CAPLUS' ENTERED AT 11:17:21 ON 03 SEP 2002

L6 25 S TAJIMA?/IN AND OKAWA?/IN
L7 0 S L2 AND L6
L8 267 S POLYOXYMETHYLENE? AND ?GLYCIDYL?
L9 93 S ?TRIOXANE? (3A) ?GLYCIDYL?
L10 93 S L9 NOT L3
L11 659486 S BLEND? OR BLOCK?
L12 36 S L10 AND L11
L13 25 S L12 NOT L6
L14 11 S L12 AND L6

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 1996:115545 CAPLUS
DN 124:177931
TI Compositions of polyacetals and modified polyolefins
IN Myawaki, Keiichi; Serizawa, Hajime
PA Polyplastics Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L023-26
ICS C08K003-00; C08K007-02; C08K007-22; C08L059-00
CC 37-3 (Plastics Manufacture and Processing)
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|--------------|
| PI JP 07316366 | A2 | 19951205 | JP 1994-109259 | 19940524 <-- |
| PRAI JP 1994-109259 | | 19940524 | | |

AB The compns., with good compatibility and improved shock resistance, comprise (A) 1-99 parts polyacetals contg. .gtoreq.10% branched polyacetals having OH content .gtoreq.25 mmol/kg and (B) 1-99 parts acid anhydride-modified polyolefins. Thus, 75 parts branched polyacetal (prepd. from trioxane 100, dioxolane 1.7, and glycerol formal 2.3 parts, OH 100 mmol/kg) and 25 parts maleated polypropylene (prepd. from 100 parts Hipol J 440 and 10 parts maleic anhydride) were melt-kneaded, pelletized, and injection-molded to give test pieces showing notched Izod impact strength 15.5 kg-cm/cm.

ST polyacetal blend compatibility impact resistance; anhydride modified polyolefin blend polyacetal

IT Impact-resistant materials
(blends of polyacetals and acid-modified polyolefins with impact resistance)

IT Plastics
RL: MSC (Miscellaneous)
(blends of polyacetals and acid-modified polyolefins with impact resistance)

IT Glass fibers, uses
Mica-group minerals, uses
RL: MOA (Modifier or additive use); USES (Uses)
(fillers; for blends of polyacetals and acid-modified polyolefins with impact resistance)

IT Esterification catalysts
(for blends of polyacetals and acid-modified polyolefins)

IT Glass, oxide
RL: MOA (Modifier or additive use); USES (Uses)
(beads, fillers; for blends of polyacetals and acid-modified polyolefins with impact resistance)

IT Rubber, ethylene-propene
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(maleated, impact-resistant blends of polyacetals and acid-modified polyolefins)

IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyolefin-, esters of hydroxy-contg. polyacetals and acid-modified polyolefins with impact resistance)

IT 127-09-3, Sodium acetate 280-57-9, Triethylenediamine 57951-36-7,
Dimethylaminopyridine
RL: CAT (Catalyst use); USES (Uses)
(esterification catalysts; for blends of polyacetals and acid-modified polyolefins)

IT 108-31-6DP, 2,5-Furandione, reaction products with ethylene-propylene rubber
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(impact-resistant blends of polyacetals and acid-modified polyolefins)

IT 174085-75-7P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(impact-resistant blends of polyacetals and acid-modified polyolefins)

IT 9010-79-1P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP
(Preparation); USES (Uses)
(rubber, maleated, impact-resistant blends of polyacetals and
acid-modified polyolefins)

=>

L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN . 1997:290446 CAPLUS

DN 126:264799

TI Toughened thermoplastic polymer compositions

IN Flexman, Edmund Arthur; Takahashi, Tatsuhiko; Kobayashi, Toshikazu

PA E.I. Du Pont De Nemours and Company, USA

SO PCT Int. Appl., 18 pp.

3 1 5

CODEN: PIXXD2

DT Patent

LA English

IC ICM C08L059-00

ICS C08K005-13

ICI C08L059-00, C08L025-18; C08L059-00, C08L061-04; C08L059-00, C08L073-00;
C08L059-00, C08L023-08; C08L059-00, C08L033-10; C08L059-00, C08L071-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| PI WO 9709384 | A1 | 19970313 | WO 1996-US14307 | 19960906 |
| W: CA, JP RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| US 5817723 | A | 19981006 | US 1996-708383 | 19960904 |
| CA 2231250 | AA | 19970313 | CA 1996-2231250 | 19960906 |
| EP 848732 | A1 | 19980624 | EP 1996-930724 | 19960906 |
| EP 848732 | B1 | 20010124 | | |
| R: DE, FR, GB, IT, NL JP 11512457 | T2 | 19991026 | JP 1996-511403 | 19960906 |
| PRAI US 1995-3649P | P | 19950907 | | |
| US 1996-708383 | A | 19960904 | | |
| WO 1996-US14307 | W | 19960906 | | |

AB The title compns. comprise (a) 1-30% polar toughening agents [e.g., polyalkylene glycols, polar polyolefins, poly(Me vinyl ether), polyepichlorohydrin, nitrile rubber, acrylic rubber] compatibilized with polyphenols (e.g., novolak, polyvinylphenol), and (b) 70-99% .gtoreq.1 thermoplastic polymer [e.g., **polyacetals**, nylon 66, nylon 6, nylon 46, nylon 1212, nylon 612, arom. polyamides, poly (butylene terephthalate), PET, poly(ethylene naphthalate), poly(butylene naphthalate), arom. polyesters, polythiophenylenes, acrylic polymers, polypropylene, polyethylene, polycarbonates, polysulfones].

ST impact resistant molding thermoplastic resin; polyalkylene glycol toughening agent thermoplastic; polar polyolefin toughening agent thermoplastic; polymethyl vinyl ether toughening agent thermoplastic; polyepichlorohydrin toughening agent thermoplastic; nitrile rubber toughening agent thermoplastic; acrylic rubber toughening agent thermoplastic; polyphenol compatibilizer toughening agent thermoplastic

IT Polyamides, properties

Polyesters, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(arom.; toughened thermoplastic polymer compns.)

IT Phenolic resins, uses

RL: MOA (Modifier or additive use); USES (Uses)
(compatibilizers; toughened thermoplastic polymer compns.)

IT Phenolic resins, uses

RL: MOA (Modifier or additive use); USES (Uses)
(novolak, compatibilizers; toughened thermoplastic polymer compns.)

IT Polyethers, properties

Polyethers, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyester-; toughened thermoplastic polymer compns.)

IT Polyesters, properties

Polyesters, properties

Polyimides, properties

Polyimides, properties

Polysulfones, properties

Polysulfones, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(polyether-; toughened thermoplastic polymer compns.)
IT Polyethers, properties
Polyethers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyimide-; toughened thermoplastic polymer compns.)
IT Polyethers, properties
Polyethers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polysulfone-; toughened thermoplastic polymer compns.)
IT Molded plastics, properties
Molded plastics, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(thermoplastics; toughened thermoplastic polymer compns.)
IT Impact-resistant materials
(toughened thermoplastic polymer compns.)
IT Acrylic polymers, properties
Liquid crystals, polymeric
Polyamides, properties
Polyamides, properties
Polycarbonates, properties
Polyesters, properties
Polyesters, properties
Polyoxymethylenes, properties
Polyoxyphenylenes
Polysulfones, properties
Polythiophenylenes
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(toughened thermoplastic polymer compns.)
IT Acrylic rubber
Nitrile rubber, uses
Polyolefins
Polyoxyalkylenes, uses
Polyoxyalkylenes, uses
Polysiloxanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(toughening agents; toughened thermoplastic polymer compns.)
IT 80-05-7, uses 92-88-6, [1,1'-Biphenyl]-4,4'-diol 9003-35-4,
Formaldehyde-phenol copolymer 9039-76-3, Butylphenol-
formaldehyde copolymer 9086-40-2, **Formaldehyde**
-octylphenol copolymer 59269-51-1, Polyvinylphenol
RL: MOA (Modifier or additive use); USES (Uses)
(compatibilizers; toughened thermoplastic polymer compns.)
IT 9003-18-3
RL: MOA (Modifier or additive use); USES (Uses)
(nitrile rubber, toughening agents; toughened thermoplastic polymer
compns.)
IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-53-6,
Polystyrene 9016-80-2, Polymethylpentene 9020-32-0, Poly(ethylene
naphthalate) 9020-73-9 9052-39-5, Cyclohexane dimethylol-terephthalic
acid copolymer 9053-81-0 24936-74-1, Nylon 612 24968-12-5,
Poly(butylene terephthalate) 25038-54-4, Nylon 6, properties
25038-59-9, properties 26062-94-2, Poly(butylene terephthalate)
26098-55-5 32131-17-2, Nylon 66, properties 36348-71-7, Nylon 1212
36497-34-4 50327-22-5, Nylon 46 50327-77-0 51806-50-9 52309-38-3
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(toughened thermoplastic polymer compns.)
IT 9003-09-2, Poly(methyl vinyl ether) 24969-06-0, Polyepichlorohydrin
25322-68-3 51109-15-0, Butyl acrylate-ethylene-glycidyl
methacrylate copolymer 61843-70-7, Butyl acrylate-carbon
monoxide-ethylene copolymer
RL: MOA (Modifier or additive use); USES (Uses)
(toughening agents; toughened thermoplastic polymer compns.)

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1997:12602 CAPLUS

DN 126:47990

TI Thermoplastic resin composition containing modified **polyacetal**

and manufacture thereof
 IN Kanai, Hiroyuki; Serizawa, Hajime; Matsushima, Mitsunori
 PA Polyplastics Co., Ltd., Japan; Kanai, Hiroyuki; Serizawa, Hajime;
 Matsushima, Mitsunori
 SO PCT Int. Appl., 128 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C08L059-00
 ICS C08L051-08; C08L063-00; C08L101-00
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 35

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | WO 9634053 | A1 | 19961031 | WO 1995-JP2139 | 19951019 |
| | W: BR, CN, KR, MX, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | JP 08302156 | A2 | 19961119 | JP 1995-129432 | 19950427 |
| | JP 3159890 | B2 | 20010423 | | |
| | JP 09048902 | A2 | 19970218 | JP 1995-218188 | 19950802 |
| | JP 09095589 | A2 | 19970408 | JP 1995-276645 | 19950928 |
| | JP 09095594 | A2 | 19970408 | JP 1995-276646 | 19950928 |
| | JP 09118806 | A2 | 19970506 | JP 1995-284635 | 19951004 |
| | JP 09124890 | A2 | 19970513 | JP 1995-291907 | 19951012 |
| | EP 771848 | A1 | 19970507 | EP 1995-934836 | 19951019 |
| | R: DE, FR, GB | | | | |
| | BR 9508009 | A | 19970805 | BR 1995-8009 | 19951019 |
| | CN 1156469 | A | 19970806 | CN 1995-194797 | 19951019 |
| | US 5852135 | A | 19981222 | US 1996-750523 | 19961212 |
| | US 5852135 | B1 | 20000509 | | |
| PRAI | JP 1995-129432 | A | 19950427 | | |
| | JP 1995-218188 | A | 19950802 | | |
| | JP 1995-233263 | A | 19950818 | | |
| | JP 1995-245363 | A | 19950829 | | |
| | JP 1995-276645 | A | 19950928 | | |
| | JP 1995-276646 | A | 19950928 | | |
| | JP 1995-284635 | A | 19951004 | | |
| | WO 1995-JP2139 | W | 19951019 | | |

AB The resin compn. with improved impact resistance and compatibility
 comprises a thermoplastic resin and a modified **polyacetal** prep'd.
 by introducing a residue of a polymerizable compd. having a functional
 group such as an epoxy, carboxyl or acid anhydride group in an amt. of 0.1
 - 30% based on the **polyacetal** component. Various polymers are
 used as the thermoplastic resin, which include olefin and styrene
 polymers, polyesters and polyamides. Dry blending 95 parts Duracon M25 (**polyacetal**) with 5 parts [N-[4-(2,3-epoxypropoxy)-3,5-
 dimethylbenzyl]acrylamide (AXE) and melt extruding with 0.1 part Perbutyl
 P gave a modified **polyacetal**. Injection-molded test pieces of a
 blend contg. this modified **polyacetal** (10 parts) and 90 parts
 Diamid L1801 exhibited weld strength 400 kg/cm² and weld elongation 25%.

ST modified **polyacetal** resin blend compatibilizer; thermoplastic
 resin modified polyaceta blend; acrylamide compd modified polyoxymethylene
 polyamide blend

IT Polyester rubber
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(Riteflex 635; modified **polyacetal** for thermoplastic resins
 with improved compatibility and impact resistance)

IT Ethylene-propylene rubber
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(Tafmer P 680; modified **polyacetal** for thermoplastic resins
 with improved compatibility and impact resistance)

IT Urethane rubber, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(adipic acid-based, Miractran E 180; modified **polyacetal** for
 thermoplastic resins with improved compatibility and impact resistance)

IT Synthetic rubber, properties

IT RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(azacyclotridecanone-polytetramethylene glycol, block, Daiamid E 40;
modified **polyacetal** for thermoplastic resins with improved
compatibility and impact resistance)

IT Polyester rubber
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(butanediol-polytetramethylene glycol-terephthalic acid, block, Hytrel
4056; modified **polyacetal** for thermoplastic resins with
improved compatibility and impact resistance)

IT Polyester rubber
Synthetic rubber, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(butanediol-polytetramethylene glycol-terephthalic acid, block, block,
Hytrel 4056; modified **polyacetal** for thermoplastic resins
with improved compatibility and impact resistance)

IT Styrene-butadiene rubber, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(hydrogenated, block, triblock, maleated, Kraton FG 1901X; modified
polyacetal for thermoplastic resins with improved compatibility
and impact resistance)

IT Ethylene-propylene rubber
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(maleated, N-Tafmer MP 620; modified **polyacetal** for
thermoplastic resins with improved compatibility and impact resistance)

IT Impact strength
Polymer blend compatibilizers
(modified **polyacetal** for thermoplastic resins with improved
compatibility and impact resistance)

IT Acrylic polymers, properties
Acrylic rubber
Fluoropolymers, properties
Polyamides, properties
Polycarbonates, properties
Polyesters, properties
Polymer blends
Polyolefins
Polyoxyphenylenes
Polysulfones, properties
Polyurethanes, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(modified **polyacetal** for thermoplastic resins with improved
compatibility and impact resistance)

IT Polyimides, properties
Polyimides, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyamide-; modified **polyacetal** for thermoplastic resins
with improved compatibility and impact resistance)

IT Polyimides, properties
Polyimides, properties
Polysulfones, properties
Polysulfones, properties
Polysulfones, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyether-; modified **polyacetal** for thermoplastic resins
with improved compatibility and impact resistance)

IT Polyamides, properties
Polyamides, properties
Polyethers, properties
Polyethers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polyimide-; modified **polyacetal** for thermoplastic resins
with improved compatibility and impact resistance)

IT Polyethers, properties
Polyethers, properties
Polyethers, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(polysulfone-; modified **polyacetal** for thermoplastic resins

- with improved compatibility and impact resistance)
- IT Polyoxymethylenes, properties
- RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (reaction product with unsatd. acids or epoxy compds.; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 9003-56-9, ABS
- RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (DPT 611; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 127162-56-5P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-methyl methacrylate copolymer 147350-75-2P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-glycidyl methacrylate-methyl methacrylate copolymer 147350-76-3P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-2-hydroxyethyl methacrylate-methyl methacrylate copolymer 163073-46-9P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-methacrylamide-methyl methacrylate copolymer 184682-86-8P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-methacrylic acid-methyl methacrylate copolymer 184682-89-1P, Allyl methacrylate-butyl acrylate-1,4-butylene glycol diacrylate-ethyl acrylate-itaconic acid-methyl methacrylate copolymer
- RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (core-shell polymer; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 9010-79-1
- RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (ethylene-propylene rubber, Tafmer P 680; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 9010-79-1D, maleated
- RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (maleated ethylene-propylene rubber, N-Tafmer MP 620; modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 106-91-2DP, reaction products with **polyacetals** 106-92-3DP, Allyl glycidyl ether, reaction products with **polyacetals** 108-31-6DP, 2,5-Furandione, reaction products with **polyacetals**, preparation 111-38-6DP, Divinyl formal, reaction products with **polyacetals** 9002-81-7DP, Formaldehyde polymer, reaction product ethylenically unsatd. epoxy or acid compds. 13670-33-2DP, 2-Vinyl-2-oxazoline, reaction products with **polyacetals** 24969-26-4DP, 1,3-Dioxolane-trioxane copolymer, reaction product ethylenically unsatd. epoxy or acid compds. 99431-43-3DP, AXE, reaction products with **polyacetals** 112487-25-9DP, Duracon M 25, reaction product ethylenically unsatd. epoxy or acid compds.
- RL: PNU (Preparation, unclassified); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 101-68-8D, polyurethanes 9002-86-2, PVC 9002-88-4, Rexlon W 3300 9003-07-0, Noblen D 501 9003-53-6, Polystyrene 9011-13-6D, Maleic anhydride-styrene copolymer, rubber-modified 9011-14-7, Sumipex LG 6 9059-69-2, Butanediol-isophthalic acid-terephthalic acid copolymer 24936-68-3, Bisphenol A polycarbonate, properties 24937-16-4, Daiamid L 1801 25037-45-0 25086-15-1, Methacrylic acid-methyl methacrylate copolymer 26061-90-5, Bondfast 2C 55097-77-3 83138-12-9, Dylark 250 153700-46-0, Youmex 1001 178412-25-4, R 80 (Vinyl polymer) 184851-90-9, DPT 651 184852-20-8, N-Tafmer TX 436 184852-24-2, XET 880D10
- RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (modified **polyacetal** for thermoplastic resins with improved compatibility and impact resistance)
- IT 9003-55-8

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(styrene-butadiene rubber, hydrogenated, block, triblock, maleated,
Kraton FG 1901X; modified **polyacetal** for thermoplastic resins
with improved compatibility and impact resistance)

L3 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1994:78579 CAPLUS

DN 120:78579

TI Lubricated **polyacetal** compositions

IN Takahashi, Tatsuhiro; Kobayashi, Toshikazu

PA du Pont de Nemours, E. I., and Co., USA

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C10M

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 9311206 | A2 | 19930610 | WO 1992-US9982 | 19921118 |
| | WO 9311206 | A3 | 19930819 | | |
| | W: BR, CA, JP, KR, RU | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE | | | | |
| | EP 613488 | A1 | 19940907 | EP 1992-925332 | 19921118 |
| | EP 613488 | B1 | 19960821 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE | | | | |
| | JP 07502768 | T2 | 19950323 | JP 1992-510160 | 19921118 |
| | AT 141633 | E | 19960915 | AT 1992-925332 | 19921118 |
| | JP 3238702 | B2 | 20011217 | JP 1993-510160 | 19921118 |
| PRAI | US 1991-795951 | A | 19911121 | | |
| | WO 1992-US9982 | W | 19921118 | | |

AB Incorporating .gtoreq.1 lubricant and an ethylene-alkyl acrylate-epoxy compd. copolymer into **polyacetal** compns. gives product with good wear resistance and melt processing stability for use in moldings for sliding applications, gears, cams, and conveyor chains. A compn. contg. polyoxymethylene 94.7, ethylene-**glycidyl** methacrylate copolymer(I) 2.5, and paraffin wax 2.0% showed dynamic friction coeff. 0.2-0.25, wear (JIS K7218A) <1 mg, and thermal evolved **formaldehyde** after 30 min 0.10%; vs. 0.2-0.25, <1, and 0.61, resp., using ethylene-vinyl acetate resin instead of I.

ST paraffin wax lubricant polyoxymethylene; **glycidyl** methacrylate copolymer blend polyoxymethylene; ethylene copolymer blend polyoxymethylene; acrylate copolymer blend polyoxymethylene; polyoxymethylene wear heat resistance

IT Polyoxymethylenes, miscellaneous

RL: MSC (Miscellaneous)

(contg. lubricants and ethylene-**glycidyl** methacrylate copolymer, with heat and wear resistance)

IT Lubricants

Paraffin waxes and Hydrocarbon waxes, uses

Siloxanes and Silicones, uses

RL: USES (Uses)

(**polyacetal** contg. ethylene-**glycidyl** methacrylate copolymer and, with heat and wear resistance)

IT Gears

Pipes and Tubes

Plastics, film

RL: USES (Uses)

(polyoxymethylene blend for manufg. heat and wear resistant)

IT Plastics, molded

RL: USES (Uses)

(polyoxymethylene blend with ethylene-**glycidyl** methacrylate copolymer, contg. lubricant, with heat and wear resistance)

IT Conveyors

(belts, chains for, polyoxymethylene blends for manufg. heat- and wear-resistant)

IT Belts
 (conveyor, chains for, polyoxymethylene blends for manufg. heat- and wear-resistant)

IT Amides, uses
 Esters, uses
 RL: USES (Uses)
 (fatty, **polyacetal** contg. ethylene-**glycidyl**
 methacrylate copolymer and, with heat and wear resistance)

IT 110-30-5 627-83-8, Ethylene glycol distearate 25190-06-1,
 Polytetramethylene glycol 25322-68-3, Polyethylene glycol 25322-69-4,
 Polypropylene glycol
 RL: USES (Uses)
 (**polyacetal** contg. ethylene-**glycidyl** methacrylate copolymer and, with heat and wear resistance)

IT 26061-90-5, Ethylene-**glycidyl** methacrylate copolymer
 51109-15-0, Butyl acrylate-ethylene-**glycidyl** methacrylate copolymer
 RL: USES (Uses)
 (**polyacetal** contg. lubricant and, with heat and wear resistance)

L3 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1992:256829 CAPLUS

DN 116:256829

TI **Polyacetal** compositions

IN Hanezawa, Hiroshi; Ono, Yasuhiro

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G002-38

ICS C08L059-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 03292314 | A2 | 19911224 | JP 1990-93069 | 19900410 |
| AB | Title compns., with antifriction and abrasion resistance properties, comprise 100 parts polyacetal block polymers contg. oxymethylene repeating unit with one end capped with R2O[(CRR1)mO]n [R, R1 = H, alkyl, (substituted) alkyl, (substituted) aryl; R2 = (substituted) alkyl, (substituted) aryl; m = 2-6; n = 1-1000], 0.5-25 parts copolymers of .alpha.-olefins (e.g., ethylene) and glycidyl esters of .alpha.,.beta.-unsatd. acids grafted or crosslinked with (co)polymers contg. repeating unit CH2CR3X [R3 = H, lower alkyl; X = CO2Me, CO2Et, CO2C4H9, CO2CH2CHEt(C4H9), Ph, CN], and .1toreq.20 parts R6O[(CR4R5)pO]qH [R4, R5 = H, (substituted) alkyl; R6 = (substituted) hydrocarbyl, aliph. acyl, arom. acyl; p = 2-6; q = 0-2000]. Thus, a cylinder with outer diam. 26 mm, inner diam. 20 mm, and depth 17 mm molded from a blend of polyoxymethylene acetylated at one end and capped with a polyoxypropylene stearyl ether block at the other end 100, acrylonitrile-ethylene- glycidyl methacrylate-styrene graft copolymer 5, and polyoxyethylene monostearyl ether 3 parts showed friction coeff. [against Tenac 4510 (polyacetal copolymer) at surface pressure 2 kg/cm ² and linear velocity 1.2-70 cm/s] 0.1 and 0.15 [against S45C at surface pressure 10 kg/cm ² and linear velocity 1.2-70 cm/s], abrasion loss (.times. 10 ⁻⁷ g/m) 2.5 of mate and 2.5 of self against Tenac 4510 and 0 of mate and 0.2 of self against S45C, vs. 0.46, 0.31, 35.5, 25.2, 0, and 43.5, resp., for a control contg. Tenac 5010 in place of the polyacetal block copolymer. | | | | |
| ST | Polyacetal block polymer abrasion resistance; antifriction Polyacetal block polymer; formaldehyde alkoxylated alc block copolymer; olefin glycidyl ester copolymer; polyoxalkylene Polyacetal block polymer | | | | |
| IT | Antifriction materials | | | | |

(blends of polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers and polyoxyalkylenes, abrasion-resistant)

IT Abrasion-resistant materials
 (blends of polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers and polyoxyalkylenes, antifriction)

IT Plastics, molded
 RL: USES (Uses)
 (blends of polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers and, abrasion-resistant, antifriction)

IT Polyoxyalkylenes, uses
 RL: USES (Uses)
 (alkyl group-terminated, blends with polyoxymethylene-polyoxyalkylene block copolymers and graft olefin copolymers, abrasion-resistant, antifriction)

IT Alkenes, polymers
 RL: USES (Uses)
 (polymers, with ethylene and **glycidyl** methacrylate, graft polymers with styrene, polyoxymethylene compns. contg., abrasion-resistant, antifriction)

IT Polyoxymethylenes, uses
 RL: USES (Uses)
 (polyoxyalkylene-, block, blends with graft olefin copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

IT Polyoxyalkylenes, uses
 RL: USES (Uses)
 (polyoxymethylene-, block, blends with graft olefin copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

IT 141668-66-8D, acetyl-terminated
 RL: USES (Uses)
 (blends with graft olefin copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

IT 9005-00-9 25231-21-4, Polyoxypropylene monostearyl ether
 RL: USES (Uses)
 (blends with polyoxymethylene-polyoxypropylene block copolymers and graft olefin copolymers, abrasion-resistant, antifriction)

IT 74-85-1D, Ethylene, polymers with .alpha.-olefins and **glycidyl** methacrylate, graft polymers with styrene 100-42-5D, graft polymers with ethylene-.alpha.-olefin-**glycidyl** methacrylate copolymers 106-91-2D, polymers with ethylene and .alpha.-olefins, graft polymers with styrene 116770-96-8 117091-81-3, Ethylene-**glycidyl** methacrylate-styrene copolymer, graft 118497-09-9 127115-40-6
 RL: USES (Uses)
 (blends with polyoxymethylene-polyoxypropylene block copolymers and polyoxyalkylenes, abrasion-resistant, antifriction)

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS
 AN 1991:248490 CAPLUS
 DN 114:248490
 TI Acetal copolymers and their preparation
 IN Sone, Tatsuo; Hata, Tadashige; Matsuzaki, Kazuhiko
 PA Asahi Chemical Industry Co., Ltd., Japan
 SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-00

ICS C08G002-08

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | WO 9015842 | A1 | 19901227 | WO 1990-JP792 | 19900618 |
| | W: CA, KR, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE | | | | |
| JP | 03021658 | A2 | 19910130 | JP 1989-154647 | 19890619 |
| JP | 06081800 | B4 | 19941019 | | |
| JP | 03070722 | A2 | 19910326 | JP 1989-206619 | 19890811 |

| | | | | |
|---------------------|---|----------|-----------------|----------|
| JP 06086508 | B4 | 19941102 | | |
| JP 03203919 | A2 | 19910905 | JP 1989-342941 | 19891229 |
| JP 3028235 | B2 | 20000404 | | |
| JP 03265615 | A2 | 19911126 | JP 1990-62514 | 19900315 |
| JP 03265616 | A2 | 19911126 | JP 1990-62515 | 19900315 |
| CA 2034505 | AA | 19901220 | CA 1990-2034505 | 19900618 |
| EP 429672 | A1 | 19910605 | EP 1990-909367 | 19900618 |
| EP 429672 | B1 | 19960327 | | |
| R: DE, FR, GB, NL | | | | |
| US 5306769 | A | 19940426 | US 1991-656062 | 19910219 |
| PRAI JP 1989-154647 | A | 19890619 | | |
| JP 1989-206619 | A | 19890811 | | |
| JP 1989-342941 | A | 19891229 | | |
| JP 1990-62514 | A | 19900315 | | |
| JP 1990-62515 | A | 19900315 | | |
| WO 1990-JP792 | W | 19900618 | | |
| AB | Acetal copolymers having viscosity 0.1-10 dL/g and showing uniform mech. properties without impairing impact resistance comprise units of polyacetal and units of crosslinked polymer fine particles having av. particle diam. (d) 0.01-10 .mu.m and functional groups selected from OH, CO2H, NH2, amide, alkoxy, acid anhydride, and epoxy groups. The polyacetal and the crosslinked polymer are linked together through the functional groups. Thus, feeding 2000 g HCHO per h and 0.30 g tetrabutylammonium acetate as polymn. catalyst per h into a suspension of 1060 g Bu acrylate-styrene-diethylene glycol diacrylate-2-hydroxyethyl methacrylate copolymer (I) fine particles (d 0.21 .mu.m) in 10 L cyclohexane at 50.degree. for 1 h gave a graft copolymer with I component content 33% and viscosity 2.8 dL/g. Test pieces prep'd. from this graft copolymer had tensile strength 288/292 kg/cm ² (welded portion/nonwelded portion), elongation 59/67% (welded portion/nonwelded portion), and Izod impact strength 63 kg-cm/cm; vs. 189/290, 7/64, and 17, resp. without using 2-hydroxyethyl methacrylate as a grafting agent in the polymn. | | | |
| ST | acetal graft copolymer prep'n; butyl acrylate graft copolymer prep'n; styrene graft copolymer prep'n; hydroxyethyl methacrylate graft copolymer prep'n; diethylene glycol diacrylate graft copolymer; impact resistance acetal graft copolymer | | | |
| IT | Polyoxymethylenes, preparation RL: PREP (Preparation) (polycarbonate-, graft, prepn. of, with improved mech. and impact strength) | | | |
| IT | Polycarbonates, preparation Polyoxyphenylenes Urethane polymers, preparation RL: PREP (Preparation) (polyoxymethylene-, graft, prepn. of, with improved mech. and impact strength) | | | |
| IT | Polyoxymethylenes, preparation RL: PREP (Preparation) (polyoxyphénylene-, graft, prepn. of, with improved mech. and impact strength) | | | |
| IT | Polyoxymethylenes, preparation RL: PREP (Preparation) (polyurethane-, graft, prepn. of, with improved mech. and impact strength) | | | |
| IT | 50-00-0DP, Formaldehyde , graft polymers with vinyl alc. and hydrogenated butadiene-styrene copolymer 107-18-6DP, 2-Propen-1-ol, graft polymers with formaldehyde and hydrogenated butadiene-styrene copolymer 9003-55-8DP, hydrogenated, graft polymers with allyl alc. and formaldehyde 134158-37-5P, Butyl acrylate-styrene-diethylene glycol diacrylate-2-hydroxyethyl methacrylate- formaldehyde graft copolymer 134158-38-6P 134158-39-7P 134182-53-9P, 2-Hydroxyethyl methacrylate-ethylene-propylene- formaldehyde graft copolymer 134182-54-0P, Ethylene-propylene-dicyclopentadiene- formaldehyde graft copolymer 134182-55-1P, Ethylene-acrylic acid- formaldehyde graft copolymer 134182-56-2P, Butadiene-styrene-maleic anhydride- formaldehyde graft copolymer 134182-57-3P, Ethylene-allyl alcohol- | | | |

formaldehyde graft copolymer 134182-58-4P, Ethylene-propylene-glycidyl methacrylate-formaldehyde graft copolymer
 134182-59-5P, Butylene glycol-terephthalic acid-tetramethylene glycol-formaldehyde graft copolymer 134182-60-8P, Nylon 6-propylene glycol-formaldehyde graft copolymer 134182-61-9P,
 MDI-tetramethylene glycol-formaldehyde graft copolymer 134182-62-0P, Ethylene glycol-terephthalic acid-formaldehyde graft copolymer 134182-63-1P, Butylene glycol-terephthalic acid-formaldehyde graft copolymer 134182-64-2P, Butyl acrylate-styrene-methyl methacrylate-2-hydroxyethyl methacrylate-formaldehyde graft copolymer 134182-65-3P, Butyl acrylate-styrene-acrylic acid-formaldehyde graft copolymer 134182-66-4P, Butyl acrylate-styrene-m-aminostyrene-formaldehyde graft copolymer 134182-67-5P, 2-Ethylehexyl acrylate-acrylamide-formaldehyde graft copolymer 134182-68-6P, Butadiene-styrene-methoxyvinyl-formaldehyde graft copolymer 134182-69-7P
 134182-70-0P 134182-71-1P, Butadiene-styrene-acrylonitrile-maleic acid-formaldehyde graft copolymer 134182-72-2P, Ethyl acrylate-styrene-meethoxyethyl methacrylate-formaldehyde graft copolymer 134182-73-3P, Methyl methacrylate-methylacrylamide-formaldehyde graft copolymer 134182-74-4P, Butyl acrylate-methyl methacrylate-2-hydroxyethyl methacrylate-formaldehyde graft copolymer 134182-75-5P 134213-34-6P

RL: PREP (Preparation)

(prepn. of, with improved mech. and impact strength)

L3 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2002 ACS

AN 1989:58841 CAPLUS

DN 110:58841

TI Glass-reinforced polyacetal compositions with improved thermal stability during processing

IN Wagman, Mark Elliot

PA du Pont de Nemours, E. I., and Co., USA

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08L059-00

ICS C08K009-04

ICI C08L059-00, C08L063-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-----------------------|------|----------|-----------------|----------|
| PI | EP 281148 | A2 | 19880907 | EP 1988-103355 | 19880304 |
| | EP 281148 | A3 | 19900704 | | |
| | R: DE, FR, GB, IT, NL | | | | |
| | US 5030668 | A | 19910709 | US 1987-23064 | 19870306 |
| | JP 63254158 | A2 | 19881020 | JP 1988-49902 | 19880304 |

PRAI US 1987-23064 19870306

AB Thermally evolved HCHO amt. (TEF) is reduced for HCHO homo- and copolymers contg. polyurethane-coated glass fiber reinforcement during processing by addn. of 0.02-1% epoxy resins. Thus, acetate-end-capped polyformaldehyde pellets contg. 25% 10-.mu.m-diam., 0.12-in.-long glass fibers coated with butanediol-1,6-hexane diisocyanate-poly(butylene adipate)-polyethylene glycol copolymer having minor concns. of aliph. hydrocarbons, silanes, and ethylene glycol diglycidyl ether, 1% nylon 66-nylon 610-nylon 6 adduct costabilizer, 0.1% triethylene glycol bis[3-(3-t-butyl-4-hydroxy-5-methylphenyl)propionate] antioxidant, and 0.2% HCHO-PhOH novolak polyglycidyl ether (I) exhibited TEF 1.33% after 30 min at 259.degree. and were injection-molded to give a sample with tensile strength 1200 kg/cm²; similar pellets not contg. I exhibited TEF 2.45% and produced an injection molding with tensile strength 1140kg/cm².

ST glass reinforced polyacetal thermal stability;

formaldehyde evolution prevention polyformaldehyde

processing; epoxy resin formaldehyde evolution preventer

IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
· (glass fiber-reinforced **polyacetals** contg., for
formaldehyde evolution prevention during processing)

IT Polyoxymethylenes, uses and miscellaneous
RL: USES (Uses)
(glass fiber-reinforced, **formaldehyde** evolution prevention
during processing of, epoxy resins for)

IT Glass fibers, uses and miscellaneous
RL: USES (Uses)
(polyurethane-coated, **polyacetals** reinforced by,
formaldehyde evolution prevention during processing of, epoxy
resins for)

IT Polyoxymethylenes, compounds
RL: USES (Uses)
(acetate-terminated, glass fiber-reinforced, **formaldehyde**
evolution prevention during processing of, epoxy resins for)

IT Phenolic resins, uses and miscellaneous
RL: USES (Uses)
(epoxy, glass fiber-reinforced **polyacetals** contg., for
formaldehyde evolution prevention during processing)

IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(phenolic, glass fiber-reinforced **polyacetals** contg., for
formaldehyde evolution prevention during processing)

IT 2386-87-0, 3,4-Epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate
9003-35-4D, **Formaldehyde**-phenol copolymer, **glycidyl**
ethers 9016-83-5D, Cresol-**formaldehyde** copolymer,
glycidyl ethers 25068-38-6, Bisphenol A-epichlorohydrin
copolymer 26142-30-3 30327-78-7
RL: USES (Uses)
(glass fiber-reinforced **polyacetals** contg., for prevention of
formaldehyde evolution during processing)

IT 25266-14-2, Ethylene oxide-**formaldehyde** copolymer
RL: USES (Uses)
(glass fiber-reinforced, **formaldehyde** evolution prevention in
processing of, epoxy resins for)

IT 50-00-0, **Formaldehyde**, uses and miscellaneous
RL: USES (Uses)
(prevention of evolution of, in processing of glass fiber-reinforced
polyacetals, by epoxy resins)

L3 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 1982:511221 CAPLUS
DN 97:111221
TI Crease-resistance treatments of cotton fabrics with
nonformaldehyde crosslinking agents
AU Yamamoto, Kazuhide
CS Daido-Maruta Finish. Co., Ltd., Kyoto, Japan
SO Text. Res. J. (1982), 52(6), 357-62
CODEN: TRJOA9; ISSN: 0040-5175
DT Journal
LA English
CC 40-9 (Textiles)
AB Of the various **nonformaldehyde** crosslinking agents glyoxal (I)
[107-22-2], **polyacetal** (II), bis(2-hydroxyethyl) sulfone (III)
[2580-77-0], propylene glycol **diglycidyl** ether (IV)
[16096-30-3] and glyoxal adducts of urea and its derivs.
4,5-dihydroxy-1,3-dimethylethyleneurea (V) [3923-79-3] and
4,5-dihydroxy-1,3-bis(2-hydroxethyl)ethyleneurea (VI) [60354-26-9] were
the most promising for practical use. Cotton fabrics treated with I and
II had excellent light fastness and good resistance to Cl scorch but had a
great loss of tensile strength, poor whiteness, and low wet crease
recovery angle. Fabrics treated with III increased dry and wet crease
recovery angles but decrease whiteness. Fabrics treated with IV had the
lowest level of dry crease recovery angle and the lowest retention tensile
strength among the treated fabrics. Excellent whiteness, good resistance

to Cl damage, and good retention of tensile strength was imparted to the fabrics treated with V and VI. Considerable improvement of wet and dry crease recovery angles were obtained with level of improvement somewhat lower with VI than with V.

ST creaseproofing cotton **nonformaldehyde** crosslinking; durable press cotton **nonformaldehyde** crosslinking

IT Creaseproofing
 (of cotton textiles, with **nonformaldehyde** crosslinking agents)

IT Creasing
 (durable-press, of cotton textiles, with **nonformaldehyde** crosslinking agents)

IT 107-22-2 107-22-2D, reaction products with pentaerythritol 115-77-5D, reaction products with glyoxal 1854-26-8 2580-77-0 3720-97-6
 3923-79-3 16096-30-3 60354-26-9 82882-04-0
RL: USES (Uses)
 (crease-resistant finishing by, of cotton textile)

L3 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS
AN 1970:101554 CAPLUS
DN 72:101554
TI **Polyacetal** hot-melt adhesives
PA Farbwerke Hoechst A.-G.
SO Fr. Demande, 9 pp.
CODEN: FRXXBL
DT Patent
LA French
IC C09J; C08G
CC 37 (Plastics Fabrication and Uses)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------------|------------|-----------------|---|
| PI | FR 2003264 | | 19691107 | | |
| PRAI | DE | | 19680305 | | |
| AB | Compns. contg. homopolymers of HCHO or trioxane (I) with esterified or etherified terminal groups, or copolymers of HCHO or trioxane with cyclic ethers, formals, and (or) glycidyl ethers, are used as hot-melt adhesives for textiles, wood, and paper. The compns. have good flow properties and are resistant to solvents and alkali. Thus, 140 cm ² of a fabric was coated with 1 g of a 49:1 I-ethylene oxide (II) copolymer reduced viscosity 0.78 as a 0.5 g/100 ml soln. in butyr o-lactone at 140.degree.). The fabric was bonded under light pressure at 220.degree. with a 2nd piece of the same size to give a bond which was resistant to washing at pH 7-10 and 100.degree. and drycleaning in ClCH:CCl ₂ at 87.degree.. Kraft paper and fabrics were similarly bonded by using a poly(oxymethylene) with acetylated terminal groups, a I-1,3-dioxolane copolymer, a I-II-hexanetriol triformal terpolymer, a I-II-1,4-butanediol diglycidyl ether terpolymer, or a I-1,3-dioxolane-1,4-butanediol formal terpolymer, optionally in CH ₂ Cl ₂ soln. | | | | |
| ST | adhesives hot melt; hot melt adhesives; trioxane copolymers adhesives; textile adhesives; paper adhesives; polyacetals adhesives; ethylene oxide copolymers adhesives; formals copolymers adhesives; formaldehyde polymers adhesives | | | | |
| IT | Polyoxy methylenes, uses and miscellaneous RL: TEM (Technical or engineered material use); USES (Uses) (adhesives, hot-melt) | | | | |
| IT | Adhesives, preparation (polyoxy methylenes, hot-melt) | | | | |
| IT | 24969-25-3 | 24969-26-4 | 27082-00-4 | 27082-01-5 | RL: TEM (Technical or engineered material use); USES (Uses) (adhesives, hot-melt) |

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L13 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:651430 CAPLUS
DN 135:211787
TI Manufacture of modified polyacetals useful for compatibilizers
IN Kawaguchi, Kuniaki
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G002-22
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

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6
21
23

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 2001240640 | A2 | 20010904 | JP 2000-55344 | 20000301 |
| AB | The polymers are manufd. by reaction of mixts. contg. (A) 0.001-20 parts glycidyl compds., (B) 0.0005-5 parts low-mol.-wt. acetals, and (C) cationic polymn. catalysts and further polymn. with (D) 100 parts trioxane or mixts. contg. D and (E) 0.1-20 parts cyclic ethers and/or cyclic formals. Thus, a polymn. product of a compn. contg. 2-ethylhexyl glycidyl ether 3.5, methylal 0.1, and boron trifluoride di-Bu etherate 0.01 part was reacted with 3.3 parts 1,3-dioxolane and 100 parts trioxane to give a copolymer, which was mixed with additives and injection-molded to give a test piece showing good impact resistance. A compn. contg. the polymer, a polyacetal, and ethylene-Et acrylate copolymer showed good compatibility. | | | | |
| ST | polyacetal modified compatibilizer impact resistance; ethylhexyl glycidyl methylal dioxolane trioxane polymer; boron fluoride butyl etherate cationic polymn catalyst | | | | |
| IT | Polymerization catalysts (cationic; manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | Impact-resistant materials Polymer blend compatibilizers (manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | Polyethers, preparation RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | 593-04-4, Boron trifluoride dibutyl etherate 7637-07-2, Boron trifluoride, uses RL: CAT (Catalyst use); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | 357914-23-9P RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | 357914-24-0P RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | 78623-05-9P 89054-18-2P RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (manuf. of modified polyacetals useful for compatibilizers) | | | | |
| IT | 9010-86-0, Ethylene-ethyl acrylate copolymer RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (manuf. of modified polyacetals useful for compatibilizers) | | | | |

L13 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:21390 CAPLUS
DN 134:72421
TI Branched polyacetal compositions
IN Tajima, Yoshihisa; Ohkawa, Hidetoshi; Kawaguchi, Kuniaki
PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-04
ICS C08K003-00; C08K005-00; C08G002-22
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 2001002887 | A2 | 20010109 | JP 1999-177270 | 19990623 |
| AB | The title compns., with good rigidity, surface hardness, and sliding property, comprise (a) 100 parts branched polyacetals contg. branched unit -(CH ₂) _m CHR(CH ₂) _n O- (m, n = 0-5; R = org. group with mol. wt. 40-1000) (e.g., copolymer of trioxane 100, ethylene oxide or 1,3-dioxolane 0-20, and monoglycidyl compds. such as Bu glycidyl ether, 2-ethylhexyl glycidyl ether, phenol glycidyl ether, o-phenylphenol glycidyl ether, or glycidyl stearate 0.001-10 parts) and (b) 0.002-5 parts crystal nucleating agents (e.g., butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer, talc, CaCO ₃). | | | | |
| ST | rigidity branched polyacetal nucleation agent; surface hardness branched polyacetal nucleation agent; sliding property branched polyacetal nucleation agent; trioxane monoglycidyl compd dioxolane copolymer polyacetal; talc crystal nucleating agent branched polyacetal; calcium carbonate crystal nucleating agent branched polyacetal | | | | |
| IT | Crystal nucleating agents Hardness (mechanical) Tensile strength (branched polyacetal compns.) | | | | |
| IT | Polymer blends RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (branched polyacetal compns.) | | | | |
| IT | 31075-01-1, 1,3-Dioxolane-phenyl glycidyl ether- trioxane copolymer 256337-60-7, 1,3-Dioxolane-o-phenylphenol glycidyl ether- trioxane copolymer 256337-65-2, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3, 1,3-Dioxolane-2-ethylhexyl glycidyl ether- trioxane copolymer 262852-16-4, 1,3-Dioxolane- glycidyl stearate- trioxane copolymer 314262-85-6, Butyl glycidyl ether-ethylene oxide- trioxane copolymer RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (branched polyacetal compns.) | | | | |
| IT | 471-34-1, Calcium carbonate (CaCO ₃), uses 14807-96-6, Talc, uses 41258-95-1, Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer RL: MOA (Modifier or additive use); USES (Uses) (crystal nucleating agents; branched polyacetal compns.) | | | | |

L13 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1997:802201 CAPLUS
DN 128:102958
TI Polyacetal compositions and their hollow moldings with improved impact resistance and blow-moldability
IN Kawakuchi, Kuniaki; Yamamoto, Kaoru
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-00
ICS C08L059-00; C08L023-06; C08L023-12
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 09324106 | A2 | 19971216 | JP 1996-145724 | 19960607 |
| | JP 3115533 | B2 | 20001211 | | |

AB The compns. with good appearance contain (a) 90-99.5% branched or crosslinked polyacetals having melt index (MI) 0.05-1.8 g/10 min (190.degree., 2160 g) and (b) 0.5-10% cylindrically-dispersed polyolefins. The hollow moldings are obtained by blow-molding of the above compns. Thus, 99% polyacetals [MI 1.0 g/10 min, prep'd. by polymn. of trioxane contg. 3.3% 1,3-dioxolane (comonomer components), 0.05% 1,4-butanediol diglycidyl ether (crosslinking components), and 0.04% methylal (mol. wt. control agents)] and 1% Idemitsu Polyethylene 530B (high-d.) were melt-kneaded and pelletized to give a test piece showing melt tensile 6.8 g at 190.degree. and cylindrical dispersion, which was blow-molded to give a hollow molding showing good appearance and impact resistance.

ST polyacetal compn hollow molding blow moldability; trioxane copolymer polyethylene **blend** appearance

IT Molding of plastics and rubbers
(blow, hollow moldings; polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

IT Impact-resistant materials
(polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

IT Linear low density polyethylenes
Polyoxalkylenes, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

IT Polymer **blends**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

IT 9010-86-0, Ethyl acrylate-ethylene copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(NUC Copolymer DPDJ 6169; polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-94-7P, 1,3-Dioxolane-hexamethylene glycol **diglycidyl ether-trioxane** copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

IT 9002-88-4, Polyethylene 25085-53-4, Noblen X 101A 180032-33-1, UF 421
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. and their hollow moldings prep'd. by polymer **blends** with good impact resistance)

L13 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1997:699322 CAPLUS

DN 128:23640

TI Polyacetal compositions and their moldings with good impact resistance, melt tension, and moldability

IN Kawaguchi, Kuniaki; Yamamoto, Kaoru

PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM . C08L059-04

ICS B29C047-00; B29C049-00; C08G002-10; C08L059-04; C08L023-26;
B29K059-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|-------|-------|-----------------|-------|
| ----- | ----- | ----- | ----- | ----- |

PI JP 09278983 A2 19971028 JP 1996-91196 19960412
JP 3169548 B2 20010528

AB Title compns. comprise (A) 90-99.9% branched or crosslinked polyacetals and (B) 0.1-10% ionomers from copolymers contg. olefins and .alpha.,.beta.-unsatd. carboxylic acids. Hollow moldings are obtained by blow-molding the above compns. Moldings manufd. by extrusion-molding the above compns., are also claimed. Thus, 99% polyacetal (prepd. from trioxane, 3.3% 1,3-dioxolane, and 0.05% 1,4-butanediol diglycidyl ether; contg. Irganox 1010 and melamine as additives) and 1% 95:5 ethylene-methacrylic acid copolymer Zn salt (neutralization degree 25%) were mixed, melt-kneaded, extruded, and cut to give pellets (melt tension 7.1 g), which were blow-molded to form a water bottle-shaped container with good impact resistance and appearance.

ST ionomer polyacetal **blend** molding; impact resistance polyacetal **blend**; moldability polyacetal **blend**

IT Extrusion of plastics and rubbers
(blow; polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT Polyoxymethylenes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinked; polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT Extrusion of plastics and rubbers
Impact-resistant materials
(polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT Ionomers
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-93-6P, 1,3-Dioxolane-propylene glycol **diglycidyl ether-trioxane** copolymer 175018-94-7P, 1,3-Dioxolane-hexamethylene glycol **diglycidyl ether-trioxane** copolymer 199284-60-1P, 1,3-Dioxolane-glycerin-propylene oxide (1:3) adduct-trioxane copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

IT 25608-26-8, Ethylene-methacrylic acid copolymer sodium salt 28516-43-0, Ethylene-methacrylic acid copolymer zinc salt 75062-18-9, Ethylene-methacrylic acid copolymer magnesium salt
RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
(polyacetal compns. with good impact resistance, melt tension, and moldability, and their moldings)

L13 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1997:590545 CAPLUS
DN 127:248867
TI Thermoplastic styrene polymer compositions
IN Matsushima, Mitsunori; Haraga, Hiroko
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L025-04
ICS C08L025-04; C08L033-10; C08L059-00
CC 37-3 (Plastics Manufacture and Processing)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 09227741 | A2 | 19970902 | JP 1996-36120 | 19960223 |
| AB | Title compns. with improved mech. strength, modulus, heat distortion temp., and abrasion resistance comprise (A) 100 parts thermoplastic styrene polymers and (B) 3-100 parts branched polyacetals prep'd. by polymn. of 85.00-99.88% trioxane, 0.1-10% cyclic ethers and/or cyclic formals, and 0.02-5% diglycidyl compds. Thus, a mixt. of trioxane 96.4, dioxolane 3.0, butanediol diglycidyl ether 0.5, and methylal 0.1% was treated in the presence of BF ₃ .Et ₂ O to obtain branched polyacetal, 30 parts of which was melt-kneaded with 100 parts #20 (polystyrene). The compn. was pelletized and injection molded to give test pieces showing tensile strength 503 kg/cm ² and abrasion loss 13.6 mg. | | | | |
| ST | thermoplastic styrene polymer blend cyclic polyacetal; trioxane dioxolane butanediol diglycidyl ether copolymer; polystyrene blend cyclic polyacetal; abrasion heat resistance thermoplastic polystyrene polyacetal | | | | |
| IT | Polyoxyalkylenes, preparation Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (polyoxyalkylene-, cyclic; 5thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | Polyoxyalkylenes, preparation Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (polyoxymethylene-, cyclic; 5thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | Abrasion-resistant materials Heat-resistant materials (thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | Polymer blends RL: PRP (Properties) (thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | 9003-56-9, ABS (polymer) RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (ABS 660SF; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | 9011-14-7, Poly(methyl methacrylate) RL: MOA (Modifier or additive use); USES (Uses) (LG 6; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | 187227-86-7P RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (cyclic; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | 178412-25-4, R 80 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (high-impact; thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |
| IT | 9003-53-6, Polystyrene RL: POF (Polymer in formulation); PRP (Properties); USES (Uses) (thermoplastic styrene polymer blends with cyclic polyacetals with improved abrasion resistance) | | | | |

L13 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1997:186340 CAPLUS

DN 126:172364

TI Propylene polymer compositions containing branched polyacetal resins with good compatibility, abrasion-resistance, and mechanical properties

IN Matsushima, Mitsunori; Haraga, Hiroko

PA Polyplastics Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L023-10
 ICS C08L059-00; C08L075-04
 CC 37-3 (Plastics Manufacture and Processing)
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 09003272 | A2 | 19970107 | JP 1995-155795 | 19950622 |

AB Blends contain 100 parts propylene polymers and 3-100 parts branched polyacetal resins prep'd. by polymn. of trioxane (I) 85.00-99.88, cyclic ethers and/or cyclic formals 0.1-10, and diglycidyl compds. 0.02-5%. Thus, J 640 (propylene copolymer) was mixed with 30% 0.3:3.0:0.1:96.6 butanediol glycidyl ether-dioxolane-methylal-I copolymer, melt kneaded, pelletized, and injection molded to give test pieces showing tensile strength 300 kg/cm², good abrasion-resistance, and no surface peeling.

ST polypropylene branched polyacetal resin blend compatibility; abrasion resistance mech strength polypropylene blend; glycidyl ether dioxolane methylal trioxane copolymer; cyclic ether formal polyacetal polypropylene blend

IT Polyurethanes, preparation
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)
 (compatibilizer; polypropylene-branched polyacetal-polyurethane blends with good compatibility, abrasion-resistance, and mech. strength)

IT Ethers, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cyclic; polymn. of trioxane and cyclic ethers and formals and diglycidyl compds. for blends with propylene polymers)

IT Polymerization
 (polymn. of trioxane and cyclic ethers and formals and diglycidyl compds. for blends with propylene polymers)

IT Epoxides
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (polymn. of trioxane and cyclic ethers and formals and diglycidyl compds. for blends with propylene polymers)

IT Polyoxymethylenes, preparation
 Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, branched; polypropylene-branched polyacetal blends with good compatibility, abrasion-resistance, and mech. strength)

IT Polyoxyalkylenes, preparation
 Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-, branched; polypropylene-branched polyacetal blends with good compatibility, abrasion-resistance, and mech. strength)

IT Abrasion-resistant materials
 (polypropylene-branched polyacetal blends with good compatibility, abrasion-resistance, and mech. strength)

IT Polymer blends
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polypropylene-branched polyacetal-polyurethane blends with good compatibility, abrasion-resistance, and mech. strength)

IT Polymer blend compatibilizers
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP

(Properties); PREP (Preparation); USES (Uses)
 (polyurethanes; polypropylene-branched polyacetal-polyurethane
 blends with good compatibility, abrasion-resistance, and mech.
 strength)

IT 187279-73-8P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP
 (Properties); PREP (Preparation); USES (Uses)
 (compatibilizer; polypropylene-branched polyacetal-polyurethane
 blends with good compatibility, abrasion-resistance, and mech.
 strength)

IT 187227-86-7P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (polypropylene-branched polyacetal **blends** with good
 compatibility, abrasion-resistance, and mech. strength)

IT 25085-53-4, J 400 106565-43-9, Hipol J 640
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (polypropylene-branched polyacetal **blends** with good
 compatibility, abrasion-resistance, and mech. strength)

L13 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1997:186338 CAPLUS

DN 126:172439

TI Ethylene polymer compositions containing branched polyacetal resins with
good mechanical strength, abrasion-resistance, and moldability

IN Matsushima, Mitsunori; Haraga, Hiroko

PA Polyplastics Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L023-04
ICS C08L059-00; C08L075-04

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | JP 09003264 | A2 | 19970107 | JP 1995-155796 | 19950622 |
| AB | Title compns. with good mech. strength contain 100 parts ethylene polymers and 3-100 parts branched polyacetal resins prepnd. by polymn. of trioxane (I) 85.00-99.88, cyclic ethers and/or cyclic formals 0.1-10, and diglycidyl compds. 0.02-5%. Caps, tubes, and other containers are manufd. from the compns. with a short molding cycle. Thus, Mirason 403P (low-d. polyethylene) was mixed with 30% 0.3:3.0:0.1:96.6 butanediol glycidyl ether-dioxolane-methylal-I copolymer, melt kneaded, pelletized, and injection molded with a min. molding cycle time 55 s to give test pieces, which showed tensile strength 255 kg/cm ² , good abrasion resistance, and no surface peeling. | | | | |
| ST | polyethylene branched polyacetal resin blend moldability; abrasion resistance mech strength polyethylene blend ; glycidyl ether methylal trioxane copolymer compatibility; dioxolane methylal trioxane copolymer compatibility polyethylene; cyclic ether formal polyacetal polyethylene blend ; cap tube container polyethylene polyacetal blend | | | | |
| IT | Polymer blend compatibilizers RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses) (modified polyolefins; polyethylene-branched polyacetal-modified polyolefin blends with good compatibility and moldability for abrasion-resistant containers) | | | | |
| IT | Abrasion-resistant materials Caps Containers Pipes and Tubes | | | | |

(polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT Polymer **blends**
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT Polyoxymethylenes, preparation
 Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyalkylene-, branched; polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT Polyoxyalkylenes, preparation
 Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxyethylene-, branched; polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT 187227-87-8P 187227-88-9P
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)
 (compatibilizer; polyethylene-branched polyacetal-modified polyolefin **blends** with good compatibility and moldability for abrasion-resistant containers)

IT 9002-88-4, Polyethylene
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (low-d., Mirason 403P; polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

IT 187227-86-7P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyethylene-branched polyacetal **blends** with good compatibility and moldability for abrasion-resistant containers)

L13 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1994:511095 CAPLUS
 DN 121:111095
 TI Biaxially stretched polyoxyethylene-vinylphenol polymer **blend** films
 IN Hasegawa, Takuya; Takasa, Kenji
 PA Asahi Chemical Ind, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08J005-18
 ICS B29C055-12; C08L025-18; C08L059-02
 ICI B29K025-00, B29K059-00, B29L007-00
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------|---|----------|-----------------|----------|
| PI JP 06080795 | A2 | 19940322 | JP 1992-237159 | 19920904 |
| AB | The films, useful for magnetic tapes, etc., contain 50-99 parts polyoxymethylenes composed of CH ₂ O units and 1-50 parts poly(vinylphenol) or its derivs. Thus, 97 parts Tenac 3010 and 3 parts Maruka Lyncur M-S 2 [I; vinylphenol polymer] were blended , pelletized, sheeted, and stretched biaxially to give a film showing tensile modulus 600 kg/mm ² in the transverse direction and 610 in the machine direction, vs. 560 and | | | |

ST 510, resp., for a control prepd. without I.
IT polyoxymethylene polyvinylphenol **blend** film stretchability
IT Polyoxymethylenes, miscellaneous
RL: MSC (Miscellaneous)
 (poly(vinylphenol) **blends**, films, biaxially stretched, with
 good mech. properties)
IT Plastics, film
RL: USES (Uses)
 (polyoxymethylene-poly(vinylphenol) **blends**, biaxially
 stretched, with good mech. properties)
IT 9002-81-7, Tenac 3010 27082-00-4, 1,4-Butanediol **diglycidyl**
ether-ethylene oxide-**trioxane** copolymer
RL: USES (Uses)
 (poly(vinylphenol) **blends**, films, biaxially stretched, with
 good mech. properties)
IT 24979-70-2, Maruka Lyncur M-S 2 24979-74-6, Maruka Lyncur CST 70
RL: USES (Uses)
 (polyoxymethylene **blends**, films, biaxially stretched, with
 good mech. properties)

L13 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1993:126073 CAPLUS

DN 118:126073

TI Polyacetal hollow moldings with improved impact strength

IN Nagasaki, Kosuke; Hata, Tadashige; Matsuzaki, Kazuhiko

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B29C049-06

ICA C08L059-00

ICI B29K059-00, B29L022-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 04193522 | A2 | 19920713 | JP 1990-322605 | 19901128 |
| | JP 3022987 | B2 | 20000321 | | |

AB The title moldings are prepd. by injection blow molding at 180-240.degree. of compns. contg. acetal resins having melt index 0.05-10 and linear, branched, or crosslinked chains. A mixt. of an acetal resin (prepd. by polymg. HCHO in the presence of glycerol and stabilized by formation of acetate end groups) 100, MDI-tetramethylene glycol-polytetramethylene glycol copolymer 12, antioxidant 0.5, and heat stabilizer 0.3 part was injection blow molded to give hollow moldings with uniform wall thickness and good impact strength.

ST acetal resin **blend** hollow molding; impact strength acetal resin **blend**; polyoxymethylene polyurethane **blend** hollow molding; injection blow molding acetal resin

IT Polyesters, uses

Rubber, urethane, uses

RL: USES (Uses)

 (acetal resin **blends**, for hollow moldings with impact
 resistance)

IT Impact-resistant materials

 (acetal resin **blends**, for injection blow molding)

IT Plastics, molded

RL: USES (Uses)

 (acetal resin **blends**, impact-resistant)

IT Polyoxymethylenes, uses

RL: USES (Uses)

 (**blends** contg., for hollow moldings with impact resistance)

IT Polyoxymethylenes, uses

RL: USES (Uses)

 (polyoxyalkylene-, **blends** contg., for hollow moldings with

IT impact resistance)
IT Polyoxalkylenes, uses
RL: USES (Uses)
(polyoxymethylene-, blends contg., for hollow moldings with
impact resistance)
IT 74-85-1D, Ethylene, polymers with propene and diene 115-07-1D,
Propylene, polymers with ethylene and diene 9018-04-6 66027-02-9,
Adipic acid-1,4-butanediol-isophthalic acid-terephthalic acid copolymer
114633-37-3 115786-07-7 118624-28-5 146277-72-7
RL: USES (Uses)
(acetal resin blends, for hollow moldings with impact
resistance)
IT 56-81-5D, 1,2,3-Propanetriol, polyoxymethylene ethers 24969-26-4,
1,3-Dioxolane-trioxane copolymer 27082-00-4, 1,4-
Butanedioldiglycidylether-ethylene oxide-trioxane
copolymer
RL: USES (Uses)
(blends contg., for hollow moldings with impact resistance)

L13 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1993:103776 CAPLUS
DN 118:103776
TI Polyoxyethylene compositions with good mechanical properties and impact
strength
IN Makabe, Yoshiki; Nishiya, Yoshitaka; Yamamoto, Yoshuki
PA Toray Industries, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-00
ICI C08L059-00, C08L075-04
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 04198355 | A2 | 19920717 | JP 1990-327799 | 19901128 |
| | JP 3136607 | B2 | 20010219 | | |

AB Title compns. with good appearance and thermal aging resistance comprise
100 parts polyoxymethylenes prep'd. by copolymg. trioxane (I), .gtoreq.1
cyclic ethers selected from ethylene oxide, 1,3-dioxolane (II),
1,3-dioxepane, 1,3,6-trioxepane, and 1,3,6-trioxaocane, and .gtoreq.1
compds. selected from Ph glycidyl ether (III), styrene oxide, and naphthyl
glycidyl ether, and 1-150 parts thermoplastic polyurethanes. Thus, 100
parts 100:3.0:0.3 I-II-III copolymer and 20 parts Miractran E 180 were
melt kneaded, pelletized, and injection molded to give a test piece
showing notched Izod impact strength 140 J/m and tensile strength halving
time 1740 h at 150.degree..

ST polyoxyethylene blend impact strength appearance; mech strength
polyoxyethylene blend appearance; aging resistance
polyoxyethylene blend; polyurethane blend
polyoxyethylene heat resistance

IT Urethane polymers, uses
RL: USES (Uses)
(polyoxyethylene blends, heat- and impact-resistant, with
good appearance)

IT Plastics
RL: USES (Uses)
(polyoxyethylene-polyurethane blends, heat- and
impact-resistant, with good appearance)

IT Heat-resistant materials
Impact-resistant materials
(polyoxyethylene-polyurethane blends, with good appearance)

IT Rubber, urethane, uses
RL: USES (Uses)
(adipic acid-based, polyoxyethylene blends, heat- and
impact-resistant, with good appearance)

IT Rubber, urethane, uses
RL: USES (Uses)
(caprolactone-based, polyoxymethylene blends, heat- and impact-resistant, with good appearance)
IT Rubber, urethane, uses
RL: USES (Uses)
(polyether-, polyoxymethylene blends, heat- and impact-resistant, with good appearance)
IT Polyoxymethylenes, uses
RL: USES (Uses)
(polyoxyalkylene-, polyurethane blends, heat- and impact-resistant, with good appearance)
IT Polyoxyalkylenes, uses
RL: USES (Uses)
(polyoxymethylene-, polyurethane blends, heat- and impact-resistant, with good appearance)
IT 31075-01-1, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer 137284-61-8, Ethylene oxide-naphthyl glycidyl ether-trioxane copolymer 146192-64-5
RL: USES (Uses)
(polyurethane blends, heat- and impact-resistant, with good appearance)

L13 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1993:103699 CAPLUS

DN 118:103699

TI Blow-molding acetal polymers for gasoline tanks

IN Matsuzaki, Kazuhiko; Kataoka, Hiroshi

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B29C049-04

ICS B65D001-09

ICI B29K059-00, B29L022-00, C08L059-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 39, 51

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 04163022 | A2 | 19920608 | JP 1990-285872 | 19901025 |
| | JP 2965660 | B2 | 19991018 | | |

AB Title tanks are prep'd. by blow-molding acetal polymers having melt index 0.005-1.0 at 180-260.degree.. Thus, a tank prep'd. by blow-molding polyoxymethylene contg. 12 phr 4,4'-diphenylmethane diisocyanate-tetramethylene glycol-poly(tetramethylene glycol) copolymer rubber with additives (melt index of the blend 0.08) had Izod impact strength 15 kg cm/cm and gasoline permeability 0.23 g mm/cm² day.

ST polyoxymethylene rubber blend gasoline tank; polyoxytetramethylene polyurethane rubber polyoxymethylene blend ; polyurethane rubber polyoxymethylene blend tank; impact resistant polyoxymethylene blend

IT Impact-resistant materials
(acetal polymer-rubber blends, for blow-molded gasoline tanks)

IT Polyoxymethylenes, uses
RL: USES (Uses)
(rubber blends with, for blow-molded gasoline tanks)

IT Gasoline
RL: USES (Uses)
(tanks for, blow-molded acetal polymer-rubber blends for)

IT Rubber, synthetic
RL: USES (Uses)
(EPDM, acetal polymer blends with, for blow-molded gasoline tanks)

IT Rubber, synthetic

RL: USES (Uses)
 (polyester, acetal polymer **blends** with, for blow-molded
 gasoline tanks)
 IT Rubber, urethane, uses
 RL: USES (Uses)
 (polyester-, acetal polymer **blends** with, for blow-molded
 gasoline tanks)
 IT Rubber, urethane, uses
 RL: USES (Uses)
 (po^{ly}oxyalkylene-, **block**, acetal polymer **blends**
 with, for blow-molded gasoline tanks)
 IT Containers
 (tanks, for gasoline, blow-molded acetal polymer-rubber **blends**
 for)
 IT 25232-00-2, 1,3-Dioxane-trioxane copolymer 27082-00-4, 1,4-Butanediol
 diglycidyl ether-ethylene oxide-**trioxane** copolymer
 RL: USES (Uses)
 (rubber **blends**, for blow-molded gasoline tanks)
 IT 74-85-1
 RL: USES (Uses)
 (rubber, EPDM, acetal polymer **blends** with, for blow-molded
 gasoline tanks)
 IT 66027-02-9, Adipic acid-1,4-butanediol-isophthalic acid-terephthalic acid
 copolymer 107678-92-2 127852-79-3
 RL: USES (Uses)
 (rubber, acetal polymer **blends**, for blow-molded gasoline
 tanks)

L13 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1991:633907 CAPLUS

DN 115:233907

TI Polyoxyethylene compositions

IN Makabe, Yoshiki; Hatsu, Toshihiro; Yamamoto, Yoshiyuki

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04

ICI C08L059-04, C08L067-00; C08L059-04, C08L071-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------|------|------------|-----------------|----------|
| PI JP 03126751 | A2 | 19910529 | JP 1989-264522 | 19891011 |
| | | JP 2903566 | B2 | 19990607 |

AB Title compns. with fast crystn. rate and good heat resistance contain 0.01-20 parts aliph. polyethers and/or aliph. polyesters per 100 parts polyoxyethylenes prep^d. by copolymg. (A) trioxane (I), (B) .gtoreq.1 cyclic ether selected from ethylene oxide, 1,3-dioxolane (II), 1,3-dioxepane, 1,3,5-trioxepane, and 1,3,6-trioxocane, and (C) .gtoreq.1 compd. selected from Ph glycidyl ether (III), styrene oxide, and naphthyl glycidyl ether. Thus, I 100, II 3.0, and III 0.3 part were treated in the presence of BF3.Et2O and methylal to obtain a polymer, 10 kg of which was further treated with bis(1,2,6,6-pentamethyl-4-piperidinyl) sebacate 27, Ca stearate 10, 1,6-hexanediol bis[3-(3,5-di-tert-butyl-4-

hydroxyphenyl)propionate] 50 g. The resulting compn. was melt kneaded (100 parts) with 0.5 parts polyethylene glycol (IV), and the **blend** was pelletized and injection molded to give test pieces showing Tm - Tc = 12.7.degree. (Tm = m.p., Tc = crystn. temp.), notched Izod impact strength 67.1 J/m, half-life of tensile strength decrease at 150.degree. 1080 h, and good appearance, vs. 14.1, 61.7, 840, and fair, resp., without IV.

ST polyoxyethylene **blend** heatproof crystn rate; polyoxyethylene polyoxyethylene **blend**; trioxane copolymer polyoxyethylene **blend**; dioxolane copolymer polyoxyethylene **blend**; glycidyloxybenzene copolymer polyoxyethylene **blend**; polyester polyoxyethylene **blend**

IT Heat-resistant materials
 (blends of polyoxymethylene and aliph. polyethers and/or
 aliph. polyesters as, with fast crystn. rate)

IT Plastics, molded
 RL: USES (Uses)
 (blends of polyoxymethylene and aliph. polyethers and/or
 aliph. polyesters as, with fast crystn. rate and good heat resistance)

IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (blends with aliph. polyethers and/or aliph. polyesters, with
 fast crystn. rate and good heat resistance)

IT Polyoxalkylenes, properties
 RL: PRP (Properties)
 (polyoxymethylene blends, with fast crystn. rate and good
 heat resistance)

IT Polyesters, uses and miscellaneous
 RL: USES (Uses)
 (aliph., blends with polyoxymethylenes, with fast crystn.
 rate and good heat resistance)

IT 31075-01-1, 1,3-Dioxolane-phenyl **glycidyl** ether-trioxane
 copolymer 137276-97-2, 1,3-Dioxepane-phenyl **glycidyl** ether-
 trioxane copolymer 137284-61-8, Ethylene oxide-naphthyl
 glycidyl ether-trioxane copolymer
 RL: USES (Uses)
 (blends with aliph. polyethers and/or aliph. polyesters, with
 fast crystn. rate and good heat resistance)

IT 24937-05-1, Poly(ethylene adipate) 24938-37-2, Poly(ethylene adipate)
 24980-41-4, Poly(.epsilon.-caprolactone) 25190-06-1 25248-42-4,
 Poly[oxy(1-oxo-1,6-hexanediyl)] 25322-68-3
 RL: USES (Uses)
 (blends with polyoxymethylenes, with fast crystn. rate and
 good heat resistance)

L13 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1991:633870 CAPLUS

DN 115:233870

TI Polyoxymethylene compositions

IN Makabe, Yoshiki; Hatsu, Toshihiro; Yamamoto, Yoshiyuki

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04

ICI C08L059-04, C08L067-00; C08L059-04, C08L071-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 03126752 | A2 | 19910529 | JP 1989-264523 | 19891011 |
| | JP 2903567 | B2 | 19990607 | | |

AB The title compns., cryst. and resistant to thermal aging with good surface and mech. properties, comprise polyoxymethylenes 100, polyoxymethylene copolymers contg. structural unit $(\text{CH}_2)_m \text{CHR}(\text{CH}_2)_n \text{O}$ ($m, n = 0-20$; $m + n > 1$; R = alkyl, alkoxyalkyl, alkoxy, aryl, aryloxyalkyl, aryloxy) 0.001-50, and aliph. polyethers and/or aliph. polyesters 0.01-20 parts. Thus, a blend of 1,3-dioxolane-trioxane copolymer with small amts. of additives 100, Ph **glycidyl** ether-trioxane copolymer

(I) 1.0, and poly(ethylene oxide) (II) 1.0 part showed melt index 9.1 g/10 min, difference of m.p. and crystn. point (as measure of crystallinity) 14.2.degree., yield stress 63.1 MPa, Izod impact strength 62.3 J/m, resistance to thermal aging (as time for tensile strength to decrease by half at 150.degree.) 1020 h, and good surface vs. 9.0, 22.4, 55.8, 51.6, 660, and poor surface, resp., for a control without I and II.

ST polyoxymethylene compn thermal aging resistance; heat resistance polyoxymethylene compn; crystallinity polyoxymethylene compn; surface

improvement polyoxymethylene compn; **trioxane glycidyl**
 ether copolymer; polyether aliph polyoxymethylene compn; polyester aliph
 polyoxymethylene compn
 IT Heat-resistant materials
 (blends of polyoxymethylenes and trioxane-cyclic ether
 copolymers and polyethers and/or polyesters)
 IT Plastics
 RL: USES (Uses)
 (blends of polyoxymethylenes and trioxane-cyclic ether
 copolymers and polyethers and/or polyesters, heat-resistant, with good
 crystallinity and mech. properties and surface)
 IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (blends with trioxane-cyclic ether copolymers and polyethers
 and/or polyesters, heat-resistant, with good crystallinity and mech.
 properties and surface)
 IT Polyesters, uses and miscellaneous
 Polyethers, uses and miscellaneous
 RL: USES (Uses)
 (aliph., blends with polyoxymethylenes and trioxane-cyclic
 ether copolymers, heat-resistant, with good crystallinity and mech.
 properties and surface)
 IT 24937-05-1, Poly(ethylene adipate) 24938-37-2, Poly(ethylene adipate)
 24980-41-4, Poly(.epsilon.-caprolactone) 25190-06-1, PTMG 25248-42-4,
 Poly[oxy(1-oxo-1,6-hexanediyl)] 25322-68-3, Poly(ethylene oxide)
 RL: USES (Uses)
 (blends with polyoxymethylenes and trioxane-cyclic ether
 copolymers, heat-resistant, with good crystallinity and mech.
 properties and surface)
 IT 25584-96-7P, Phenyl **glycidyl** ether-**trioxane** copolymer
 30049-86-6P, Styrene oxide-trioxane copolymer 137126-98-8P
 RL: PREP (Preparation)
 (prepn. of, blends with polyoxymethylenes and polyethers
 and/or polyesters, heat-resistant, with good crystallinity and mech.
 properties and surface)
 IT 9002-81-7P, Formaldehyde polymer 24969-26-4P
 RL: PREP (Preparation)
 (prepn. of, blends with trioxane-cyclic ether copolymers and
 polyethers and/or polyesters, heat-resistant, with good crystallinity
 and mech. properties and surface)

L13 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1991:451194 CAPLUS

DN 115:51194

TI Impact-resistant polyoxymethylene **blends**

IN Matsuzaki, Kazuhiko

PA Asahi Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-02

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|----------|
| JP 03000756 | A2 | 19910107 | JP 1989-134640 | 19890530 |
| JP 06076538 | B4 | 19940928 | | |

AB The title **blends** contain linear polyoxymethylenes 100, network
 polyoxymethylenes 0.01-15, and branched polyoxymethylenes 0.01-10 parts.
 A **blend** of linear polyoxymethylene 100, Bu₃N-crosslinked
 trioxane-ethylene oxide-1,4-butanediol glycidyl ether copolymer 1.0,
 branched HCHO-trimethylolpropane copolymer 2.0, and stabilizers 0.7 part
 had melt index 14.8 g/10 min, Izod impact strength 10.2 kg-cm/cm, and
 tensile elongation 50%.

ST polyoxymethylene **blend** impact resistance; crosslinking
 polyoxymethylene **blend**; branched polyoxymethylene **blend**

; trimethylolpropane copolymer blend; glycidyl ether copolymer
 blend; trioxane copolymer blend
 IT Polyoxytmethylenes, uses and miscellaneous
 RL: USES (Uses)
 (blends of linear, crosslinked and branched,
 impact-resistant)
 IT 24969-25-3
 RL: USES (Uses)
 (blends with crosslinked and branched polyoxytmethylenes,
 impact-resistant)
 IT 24969-26-4, Ethylene glycol formal-trioxane copolymer 134902-96-8
 RL: USES (Uses)
 (branched, blends with linear and crosslinked
 polyoxytmethylenes, impact-resistant)
 IT 27082-00-4, 1,4-Butanediol diglycidyl ether-ethylene oxide-
 trioxane copolymer 134873-66-8
 RL: USES (Uses)
 (crosslinked, blends with linear and branched
 polyoxytmethylenes, impact-resistant)

L13 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1991:63557 CAPLUS
 DN 114:63557
 TI Moldable acetal polymer-elastomer blends
 IN Wissbrun, Kurt F.; Collins, George L.; Kim, Hongkyu; Terrone, Diane
 PA Hoechst Celanese Corp., USA
 SO Eur. Pat. Appl., 8 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C08L059-02
 ICI C08L059-02, C08L059-04
 CC 37-6 (Plastics Manufacture and Processing)
 Section cross-reference(s): 38

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------------------|------|----------|-----------------|----------|
| PI | EP 391681 | A2 | 19901010 | EP 1990-303594 | 19900404 |
| | EP 391681 | A3 | 19911030 | | |
| | R: BE, DE, FR, GB, IT, NL | | | | |
| | US 5045607 | A | 19910903 | US 1989-333511 | 19890405 |
| | CA 2013288 | AA | 19901005 | CA 1990-2013288 | 19900328 |
| | JP 02294353 | A2 | 19901205 | JP 1990-91325 | 19900405 |
| | JP 3045515 | B2 | 20000529 | | |
| PRAI | US 1989-333511 | A | 19890405 | | |
| | US 1988-243381 | A2 | 19880912 | | |

AB Blends of a normally cryst. acetal polymer and a normally
 noncryst. elastomeric copolymer of trioxane 15-45, 1,3-dioxolane (I)
 55-85, and 1,4-butanediol diglycidyl ether (II) or butadiene diepoxyde
 0.005-0.05% are useful as moldings having good elasticity and
 adhesiveness. Thus, a blend of 30% trioxane-I-II copolymer and
 70% cryst. Celcon M25 (acetal polymer) was used to prep. moldings.

ST acetal polymer blend elasticity adhesiveness; dioxolane
 copolymer acetal polymer blend; epoxide copolymer acetal polymer
 blend; butadiene diepoxyde copolymer blend; trioxane
 copolymer acetal polymer blend

IT Plastics, molded
 RL: USES (Uses)
 (acetal resin-elastomer blends, with elasticity and
 adhesiveness)

IT Polyoxytmethylenes, uses and miscellaneous
 RL: USES (Uses)
 (blends with elastomers, with elasticity and adhesiveness)

IT Rubber, synthetic
 RL: USES (Uses)
 (bioxirane-dioxolane-trioxane, blends with acetal polymers,
 with elasticity and adhesiveness)

IT Rubber, synthetic
RL: USES (Uses)
(butanediol **diglycidyl** ether-dioxolane-**trioxane**,
blends with acetal polymers, with elasticity and adhesiveness)
IT 41258-95-1 127552-61-8
RL: USES (Uses)
(blends with acetal polymers, with elasticity and
adhesiveness)
IT 24969-25-3, Celcon M270 52276-51-4, Celcon M25 95327-43-8, Celcon M90
RL: USES (Uses)
(blends with elastomers, with elasticity and adhesiveness)

L13 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1990:593243 CAPLUS
DN 113:193243
TI Preparation of elastomeric acetal copolymers
IN Collins, George L.; Wissbrun, Kurt F.; Kim, Hongkyu
PA Hoechst Celanese Corp., USA
SO U.S., 6 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C08G002-24
NCL 528230000
CC 39-4 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | US 4937312 | A | 19900626 | US 1989-448746 | 19891211 |
| AB | Elastomeric acetal copolymers, having strong interaction with cryst. polyacetals, and useful as blending agents with cryst. polyacetals, are prep'd. by mixing 15-45 mol% trioxane (I) and 55-85 mol% 1,3-dioxolane (II) based on the total of I and II, and 0.05-0.15 wt.% 1,5-butanediol diglycidyl ether (III) or butadiene diepoxide under an inert atm. in the presence of a cationic polymn. catalyst. Thus, dry I, II, and III were copolymd. at ambient temp. in the presence of p-nitrobenzenediazonium tetrafluoroborate catalyst soln. and MeNO ₂ for 24 h and the product was worked up with CH ₂ Cl ₂ and EtOH to give a copolymer having inherent viscosity 2.46. | | | | |
| ST | acetal copolymer elastomer manuf; trioxane copolymer rubber manuf; dioxolane copolymer rubber manuf; butanediol glycidyl ether copolymer rubber; nitrobenzenediazonium fluoroborate polymn catalyst acetal | | | | |
| IT | Polyoxymethylenes, preparation RL: PREP (Preparation) (manuf. of elastomeric,) | | | | |
| IT | Polymerization catalysts (nitrobenzenediazonium tetrafluoroborate, for acetal copolymer rubber manuf.) | | | | |
| IT | Rubber, synthetic RL: SPN (Synthetic preparation); PREP (Preparation) (butanediol diglycidyl ether-dioxolane- trioxane , prepn. and uses of) | | | | |
| IT | 456-27-9, p-Nitrobenzenediazonium tetrafluoroborate RL: CAT (Catalyst use); USES (Uses) (catalysts, for copolymn. of dioxolane and trioxane and butanediol diglycidyl ether) | | | | |
| IT | 41258-95-1P RL: IMF (Industrial manufacture); PREP (Preparation) (rubber, prepn. of, method for) | | | | |

L13 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 1990:218345 CAPLUS
DN 112:218345
TI Biaxially stretched polyoxymethylene films with smooth surface
IN Takasa, Kenji; Iijima, Satoshi
PA Asahi Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B29C055-12

ICS C08J005-18

ICA B29C055-18; C08L059-02; C08L071-02; G11B005-704

ICI B29K059-00, B29L007-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 01286820 | A2 | 19891117 | JP 1988-178044 | 19880719 |
| | JP 04022418 | B4 | 19920417 | | |
| | US 4946930 | A | 19900807 | US 1988-221602 | 19880720 |
| | EP 300480 | A3 | 19900530 | EP 1988-111782 | 19880721 |
| | EP 300480 | B1 | 19931215 | | |

R: DE, FR, GB

PRAI JP 1987-179923 19870721
JP 1988-12586 19880125

AB Title films, contg. mainly oxymethylene units and useful for magnetic recording media substrates, etc., are prep'd. by melting biaxially stretched films above the m.p. and recrystg. the films isothermally at 140.degree. to form films having no. of spherulites on the surface .gt;req.50/0.1 mm². Thus, a blend of 100 parts Tenac 3010 and 1.5 parts 0.5:2.0:97.5 1,4-butanediol glycidyl ether-ethylene oxide-trioxane copolymer (I) was pelletized, extruded into a film, and biaxially stretched to give a 15-.mu.m film, which was sandwiched between 2 glass plates, melted 30 s at 200.degree., and recrystd. at 140.degree. to give a film having no. of spherulites (diam. 15-30 .mu.m) 150-300/0.1 mm² and surface roughness 0.042 .mu.m, vs. 8-15 and 0.12, resp., for a film prep'd. without I.

ST polyoxymethylene biaxially stretched recrystd film; magnetic recording media polyoxymethylene film

IT Polyoxymethylenes, uses and miscellaneous

RL: USES (Uses)

(films, biaxially stretched and recrystd., for magnetic recording media)

IT 9002-81-7, Tenac 3010 122343-73-1, Duracon U 10

RL: USES (Uses)

(films, contg. oxymethylene copolymers, for magnetic recording media)

IT 27082-00-4, 1,4-Butanediol glycidyl ether-ethylene oxide-

trioxane copolymer

RL: USES (Uses)

(polyoxymethylene films contg., for magnetic recording media)

L13 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1989:535376 CAPLUS

DN 111:135376

TI Thermoplastic resin compositions containing modifier and polysiloxane-polyacetal

IN Nakane, Toshio; Kageyama, Yukihiko; Hijikata, Kenji

PA Polyplastics Co., Ltd., Japan

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08L101-00

ICS C08G077-46

ICI C08L101-00, C08L083-12

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | EP 319290 | A2 | 19890607 | EP 1988-311382 | 19881201 |
| | EP 319290 | A3 | 19900725 | | |
| | EP 319290 | B1 | 19930915 | | |

R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE

| | | | | |
|-------------|--|----------|----------------|----------|
| JP 01146958 | A2 | 19890608 | JP 1987-307198 | 19871204 |
| JP 05080944 | B4 | 19931110 | | |
| US 4959404 | A | 19900925 | US 1988-266800 | 19881103 |
| BR 8806059 | A | 19890808 | BR 1988-6059 | 19881118 |
| AT 94579 | E | 19931015 | AT 1988-311382 | 19881201 |
| PRAI | JP 1987-307198 | 19871204 | | |
| | EP 1988-311382 | 19881201 | | |
| AB | <p>Compatible title compns. with high toughness and abrasion resistance comprise a thermoplastic resin having solv. parameter (.delta.) .gtoreq.9.5 cal0.5/cm1.5 0.1-99.9, a modifier having .delta. .ltoreq.8.5 cal0.5/cm1.5 15-85, and a Si-contg. polyacetal copolymer (A) as dispersibility improver 0.01-5 parts. A blend of Duracon M90 94.5, SH-200 4, and an A (obtained by the reaction of polydimethylsiloxane diglycidyl ether, trioxane, and ethylene oxide) 1.5 part was injection-molded and heated at 80.degree. for 1 mo to give test pieces showing no bleeding of silicone oil, dynamic friction coeff. 0.07, and good flexural strength, compared with bleeding, 0.13, and poor, resp., without the A.</p> | | | |
| ST | <p>Polyacetal silicone oil blend molding; abrasion resistance Polyacetal blend; dispersibility improver polyacetal siloxane epoxide</p> | | | |
| IT | <p>Polyamides, uses and miscellaneous Polycarbonates, uses and miscellaneous Polyesters, uses and miscellaneous Siloxanes and Silicones, uses and miscellaneous Urethane polymers, uses and miscellaneous</p> | | | |
| | <p>RL: USES (Uses) (thermoplastic blends, dispersibility improvers for, silicone-contg. polyacetal as)</p> | | | |
| IT | <p>Rubber, butyl, uses and miscellaneous Rubber, ethylene-propene Rubber, silicone, uses and miscellaneous</p> | | | |
| | <p>RL: USES (Uses) (thermoplastic blends, dispersibility improvers for, siloxane-polymethylene polymers as)</p> | | | |
| IT | <p>Rubber, synthetic RL: USES (Uses) (fluoro, thermoplastic blends, dispersibility improvers for, siloxane-polymethylene polymers as)</p> | | | |
| IT | <p>Polyesters, uses and miscellaneous RL: USES (Uses) (polyamide-, thermoplastic blends, dispersibility improvers for, silicone-contg. polyacetal as)</p> | | | |
| IT | <p>Polyamides, uses and miscellaneous RL: USES (Uses) (polyester-, thermoplastic blends, dispersibility improvers for, silicone-contg. polyacetal as)</p> | | | |
| IT | <p>Plastics RL: USES (Uses) (thermo-, blends, dispersibility improver for, silicone-contg. polyacetal as)</p> | | | |
| IT | <p>75-21-8D, Oxirane, reaction products with glycidyl-terminated siloxanes and trioxane 110-88-3D, 1,3,5-Trioxane, reaction products with glycidyl-terminated siloxanes and dioxolane 646-06-0D, 1,3-Dioxolane, reaction products with glycidyl-terminated siloxanes and trioxane RL: USES (Uses) (dispersibility improvers, for thermoplastic blends)</p> | | | |
| IT | <p>9002-86-2, PVC 24968-12-5, Poly(butylene terephthalate) 26062-94-2, Poly(butylene terephthalate) RL: USES (Uses) (polyoxymethylene blends, dispersibility improvers for, silicone-contg. polyacetal as)</p> | | | |
| IT | <p>9010-79-1 9010-85-9 RL: USES (Uses) (rubber, thermoplastic blends, dispersibility improvers for, siloxane-polymethylene polymers as)</p> | | | |

IT 9002-81-7, Polyoxymethylenes 9002-85-1, Poly(vinylidene chloride)
 9002-89-5, Poly(vinyl alcohol) 9003-21-8, Poly(methyl acrylate)
 9004-34-6, Cellulose, uses and miscellaneous 25014-41-9,
 Polyacrylonitrile 25067-61-2, Polymethacrylonitrile
 RL: USES (Uses)
 (thermoplastic blends, dispersibility improvers for,
 silicone-contg. polyacetal as)
 IT 9002-84-0 9002-88-4 27342-38-7, Duracon M 90
 RL: USES (Uses)
 (thermoplastic blends, dispersibility improvers for,
 siloxane-polymethylene polymers as)

L13 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1979:122537 CAPLUS
 DN 90:122537
 TI Trioxane thermoplastic copolymers
 IN Bojarski, Jerzy; Cieslak, Jerzy; Fejgin, Jerzy; Jezior, Roman; Penczek,
 Stanislaw; Tomaszewicz, Maria
 PA Instytut Chemii Przemyslowej, Pol.
 SO Pol., 4 pp.
 CODEN: POXXA7
 DT Patent
 LA Polish
 IC C08G002-10
 CC 36-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------------|------------|-----------------|----------|
| PI | PL 94376 | P | 19770730 | PL 1974-174628 | 19741007 |
| AB | Thermoplastics with improved rigidity and low melt flow index (I) were obtained by blending linear trioxane (I) copolymers with crosslinked I copolymers. E.g., a blend contg. dioxolane-trioxane copolymer [24969-26-4] (I = 12.3 g/10 min) 1000 with dioxolane-2,2-bis(4-glycidyloxyphenyl)propane-trioxane copolymer [63411-51-8] (I = 0) 50 g was prep'd. by homogenizing at 180-5.degree. and granulation. The granulate had I 7.9 g/10 min and it gave test bars with elasticity modulus 27,200 kg/cm ² and elongation at break 14.9%. | | | | |
| ST | rigid thermoplast blend; trioxane copolymer blend; polyoxymethylene rigid blend | | | | |
| IT | Polyoxymethylenes, properties RL: PRP (Properties) (rigid blends contg. linear and crosslinked trioxane copolymers) | | | | |
| IT | 24969-26-4 | 27925-11-7 | | | |
| IT | RL: USES (Uses) (rigid blends contg. crosslinked trioxane copolymers) | | | | |
| IT | 63411-50-7 | 63411-51-8 | 69678-97-3 | | |
| IT | RL: USES (Uses) (rigid blends contg. linear trioxane copolymer) | | | | |

L13 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1978:616326 CAPLUS
 DN 89:216326
 TI Trioxane thermoplastic copolymers
 IN Bojarski, Jerzy; Cieslak, Jerzy; Fejgin, Jerzy; Jezior, Roman; Penczek,
 Stanislaw; Tomaszewska, Maria
 PA Instytut Chemii Przemyslowej, Pol.
 SO Pol., 4 pp.
 CODEN: POXXA7
 DT Patent
 LA Polish
 IC C08G002-10
 CC 36-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------------|------|------|-----------------|------|
|--|------------|------|------|-----------------|------|

PI PL 94376 19771231 PL 1974-174628 19741007
 AB The title copolymers with improved mech. properties were prep'd. by modification of linear trioxane copolymers with crosslinked trioxane co- or terpolymers. Thus, 1000 g powd. linear 5:95 (mol%) dioxolane-trioxane copolymer [24969-26-4], stabilized with 2,2'-methylenebis(4-methyl-6-tert-butylphenol) and dicyandiamide, was mixed with 50 g crosslinked 0.05:5:94.95 (mol%) bisphenol A **diglycidyl** ether-dioxolane-**trioxane** terpolymer [63411-51-8]; the mixt. was homogenized at 180-5.degree. to give a material with elasticity modulus on stretching 27,200 kg/cm², yield stress on stretching 602 kg/cm², and elongation at break 14.9%.
 ST trioxane dioxolane polymer **blend**; epoxy contg trioxane polymer **blend**; crosslinked trioxane copolymer **blend**; polyoxyalkylene **blend** mech property
 IT Polyoxalkylenes
 RL: USES (Uses)
 (linear-crosslinked trioxane copolymer **blends**, with increased strength)
 IT 24969-26-4
 RL: USES (Uses)
 (**blends** with crosslinked trioxane terpolymers, with improved strength)
 IT 63411-51-8
 RL: USES (Uses)
 (**blends** with linear trioxane copolymers, with improved strength)

L13 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1974:438427 CAPLUS
 DN 81:38427
 TI Thermoplastic poly(oxymethylene) molding materials
 IN Burg, Karl H.; Kern, Rudolf; Schmidt, Heinz
 PA Farbwerke Hoechst A.-G.
 SO Ger. Offen., 18 pp. Addn. to Ger. Offen. 2,150,038 (See FR 2,121,879 CA 78;112241w).
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C08G
 CC 36-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | DE 2233143 | A1 | 19740131 | DE 1972-2233143 | 19720706 |
| | DE 2233143 | C3 | 19800918 | | |
| | NL 7309132 | A | 19740108 | NL 1973-9132 | 19730629 |
| | NL 171070 | B | 19820901 | | |
| | NL 171070 | C | 19830201 | | |
| | CH 590895 | A | 19770831 | CH 1973-9710 | 19730703 |
| | JP 49058145 | A2 | 19740605 | JP 1973-74939 | 19730704 |
| | JP 56042623 | B4 | 19811006 | | |
| | AU 7357675 | A1 | 19750109 | AU 1973-57675 | 19730704 |
| | CA 1002223 | A1 | 19761221 | CA 1973-175633 | 19730704 |
| | ZA 7304553 | A | 19740626 | ZA 1973-4553 | 19730705 |
| | AT 7305927 | A | 19750515 | AT 1973-5927 | 19730705 |
| | AT 328187 | B | 19760310 | | |
| | SE 406772 | C | 19790607 | SE 1973-9468 | 19730705 |
| | SE 406772 | B | 19790226 | | |
| | BE 802031 | A4 | 19740107 | BE 1973-133220 | 19730706 |
| | FR 2192138 | A2 | 19740208 | FR 1973-24953 | 19730706 |
| | FR 2192138 | B2 | 19781006 | | |
| | GB 1431586 | A | 19760407 | GB 1973-32412 | 19730706 |
| | US 3980734 | A | 19760914 | US 1975-579472 | 19750521 |
| PRAI | BE 1972-778135 | | 19720117 | | |
| | DE 1972-2233143 | | 19720706 | | |
| | US 1973-376232 | | 19730703 | | |
| AB | Decreased spherulite size in molding compns. from linear | | | | |

polyoxymethylenes was accomplished by the addn. of .1eq. 10% branched polyoxymethylenes and 0.1-10% high-mol.-wt. polymer having f.p.-10 to -80.deg., softening point-below the crystallite m.p. of the polyoxymethylenes, and particle size 0.1-5 .mu.. Thus, the addn. of 1.0% 1,3,5-trioxane-ethylene oxide-methyl **glycidyl** formal copolymer (I) [30527-34-5] and 3% ethylene-vinyl acetate copolymer (II) [24937-78-8] to ethylene oxide-1,3,5-trioxane copolymer (III) [24969-25-3] gave a thermoplastic molding material having spherulite size 21.mu., in comparison to 419.mu. for a III-II compn. and 521.mu. for III alone. II had f.p.-15.deg., melt index 24 g/10 min and particle size 0.2-2.mu.. The molded product from the I-III-III compn. had sphere-impression hardness (VDE 0302) 1410 kg/cm². Failure in the falling hammer impact strength test occurred at hammer wt. 500 g and fall distance 2330 cm.

ST polyoxymethylene molding compn; spherulite size reduction
polyoxymethylene; morphol polyoxymethylene molding compn; mech property
polyoxymethylene compn; **blend** polyoxymethylene molding
IT 24969-25-3
RL: USES (Uses)
(**blends** contg., for spherulite control in molding)
IT 24937-78-8
RL: USES (Uses)
(**blends** with polyoxymethylenes, for spherulite control in molding)
IT 30527-34-5
RL: USES (Uses)
(polyoxymethylene **blends** contg., for spherulite control in molding)

L13 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1974:38023 CAPLUS

DN 80:38023

TI Poly(oxymethylene) moldings of reduced spherulite size

IN Kern, Rudolf; Schmidt, Heinz; Burg, Karl H.; Wolters, Ernst

PA Farbwerke Hoechst A.-G.

SO Ger. Offen., 16 pp. Addn. to Ger. Offen. 2,101,817 (CA 79;6105r).

CODEN: GWXXBX

DT Patent

LA German

IC C08G

CC 37-3 (Plastics Fabrication and Uses)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | DE 2166377 | A1 | 19731031 | DE 1971-2166377 | 19710115 |
| | DE 2166377 | B2 | 19760923 | | |

AB Linear poly(oxymethylene), e.g. ethylene oxide-trioxane copolymer (I) [24969-25-3] were **blended** with 0.5-12% branched or crosslinked 1,4-butanediol **diglycidyl** ether-ethylene oxide-**trioxane** copolymer (II) [27082-00-4] as nucleating agent. The **blends** gave moldings of reduced spherulite size and improved mech. properties. Thus, 2:98 I (d. 1.41 g/ml, m.p. 166.deg.) was homogenized with 0.5% (based on I) 2,2'-methylenebis(6-tert-butyl-p-cresol), 0.1% dicyandiamide stabilizer and 2% 0.05:1.95:98 II (melt index 1.0 g/10 min) 4 min at 200.deg. and injection-molded to give samples of spherulite size 13 .mu., indentation hardness (VDE 0302) 1600 kg/cm², yield point (DIN 53,455) 720 kg/cm², and apparent modulus of rigidity 8140 kg/cm², as compared with 230 .mu., 1570, 652, and 7600 for II-free samples.

ST polyoxymethylene molding spherulite size; trioxane copolymer spherulite regulator; ethylene oxide copolymer spherulite; butanediol glycidyl ether nucleation

IT Polyoxymethylenes, uses and miscellaneous

RL: USES (Uses)
(molding of, crystal nucleating agents for spherulite size redn. in)

IT Crystal nucleation
(of polyoxymethylenes, by bis(epoxypropoxy)butane-ethylene oxide-trioxane polymers)

IT Molding of plastics and rubbers

(of polyoxymethylenes, crystal nucleation agents for use in)
 IT Spherulites
 (size of, in polyoxymethylene molding, crystal nucleating agents for
 redn. of)
 IT 27082-00-4
 RL: USES (Uses)
 (crystal nucleating agents, for spherulite size redn. in
 polyoxymethylene molding)
 IT 24969-25-3 24969-26-4
 RL: USES (Uses)
 (molding of, crystal nucleating agents for spherulite size redn. in)

L13 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1973:406105 CAPLUS
 DN 79:6105
 TI Thermoplastic poly(oxymethylene) molding compositions
 IN Kern, Rudolf; Schmidt, Heinz; Burg, Karl Heinz; Wolters, Ernst
 PA Farbwerke Hoechst A.-G.
 SO Ger. Offen., 16 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC C08G
 CC 36-3 (Plastics Manufacture and Processing)
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------|------|----------|-----------------|----------|
| PI | DE 2101817 | A1 | 19730405 | DE 1971-2101817 | 19710115 |
| | DE 2101817 | B2 | 19740124 | | |
| | DE 2101817 | C3 | 19790315 | | |
| | ZA 7200075 | A | 19720927 | ZA 1972-75 | 19720106 |
| | CA 992238 | A1 | 19760629 | CA 1972-131875 | 19720107 |
| | NL 7200398 | A | 19720718 | NL 1972-398 | 19720111 |
| | CH 562286 | A | 19750530 | CH 1972-391 | 19720112 |
| | CS 216652 | P | 19821126 | CS 1972-199 | 19720112 |
| | IT 946556 | A | 19730521 | IT 1972-19342 | 19720113 |
| | AU 7237865 | A1 | 19730719 | AU 1972-37865 | 19720113 |
| | JP 55019942 | B4 | 19800529 | JP 1972-5634 | 19720113 |
| | BR 7200236 | A0 | 19730524 | BR 1972-236 | 19720114 |
| | SU 416953 | D | 19740225 | SU 1972-1737658 | 19720114 |
| | AT 313581 | B | 19740225 | AT 1972-326 | 19720114 |
| | HU 164906 | P | 19740528 | HU 1972-HO1450 | 19720114 |
| | SE 369079 | B | 19740805 | SE 1972-426 | 19720114 |
| | PL 77354 | P | 19750430 | PL 1972-152915 | 19720114 |
| | RO 59380 | P | 19760315 | RO 1972-69394 | 19720114 |
| | BE 778135 | A1 | 19720717 | BE 1972-112927 | 19720117 |
| | FR 2121879 | A5 | 19720825 | FR 1972-1406 | 19720117 |
| | FR 2121879 | A1 | 19720825 | | |
| | FR 2121879 | B1 | 19780908 | | |
| | GB 1382472 | A | 19750205 | GB 1972-2235 | 19720117 |
| | US 4181685 | A | 19800101 | US 1976-676927 | 19760414 |
| PRAI | DE 1971-2101817 | | 19710115 | | |
| | DE 1971-2150038 | | 19711007 | | |
| | US 1972-217667 | | 19720113 | | |
| | US 1972-217668 | | 19720113 | | |

AB The title compns. of reduced spherulite size and improved workability for moldings of improved mech. properties contained linear trioxane polymers, e.g. 2:98 ethylene oxide-trioxane copolymer (I) [24969-25-3] and nucleating 0.05:1.95:98 1,4-butanediol diglycidyl ether-ethylene oxide-trioxane copolymer (II) [27082-00-4]. Thus, I of reduced sp. viscosity (0.5 g in 100 ml 98:2 butyrolactone-Ph2NH, 140.deg.) 0.73 dl/g and d. 1.41 was homogenized with II [melt index (DIN 53,735; 190.deg., 2.16 kg) 1.0 g/10 min] 5.0, CH2(C6H2Me(OH)CMe3-5,2,3)2 0.5, and dicyandiamide 0.1% in an extruder for 4 min at 200.deg.; the mixt. had spherulite size 9 .mu. and gave moldings of ball hardness (VDE 0302, 10 sec) 1615 kg/cm² and yield strength 729 kg/cm² vs. 230 .mu., 1570 kg/cm², and 652 kg/cm², resp., for I contg. no II.

ST polyoxymethylene molding compn; trioxane copolymer molding compn; ethylene oxide polyoxymethylene molding; ethylene oxide polyoxymethylene molding; butanediol glycidyl ether polyoxymethylene; spherulite size polyoxymethylene molding; **blend** polyoxymethylene molding
 IT Polyoxymethylenes, uses and miscellaneous
 RL: USES (Uses)
 (molding compns., contg. butanediol **diglycidyl** ether-ethylene oxide-**trioxane** polymers, with improved workability)
 IT Spherulites
 (size of, in trioxane polymer molding compns., mech. property improvement by redn. in)
 IT 24969-25-3 24969-26-4
 RL: USES (Uses)
 (molding compn., contg. butanediol **diglycidyl** ether-ethylene oxide-**trioxane** polymers, with improved workability)
 IT 27082-00-4
 RL: USES (Uses)
 (molding compns., contg. trioxane copolymers and, with improved workability)

L13 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 1973:112241 CAPLUS
 DN 78:112241
 TI Thermoplastic poly(oxymethylene) molding materials
 PA Farbwerke Hoechst A.-G.
 SO Fr. Demande, 31 pp.
 CODEN: FRXXBL
 DT Patent
 LA French
 IC C08G
 CC 36-6 (Plastics Manufacture and Processing)
 FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | FR 2121879 | A5 | 19720825 | FR 1972-1406 | 19720117 |
| | FR 2121879 | A1 | 19720825 | | |
| | FR 2121879 | B1 | 19780908 | | |
| | DE 2101817 | A1 | 19730405 | DE 1971-2101817 | 19710115 |
| | DE 2101817 | B2 | 19740124 | | |
| | DE 2101817 | C3 | 19790315 | | |
| | DE 2150038 | A1 | 19730426 | DE 1971-2150038 | 19711007 |
| | DE 2150038 | C3 | 19790412 | | |
| | US 4070415 | A | 19780124 | US 1972-217668 | 19720113 |

PRAI DE 1971-2101817 19710115
 DE 1971-2150038 19711007
 AB Poly(oxymethylene) bead molding compns. for articles with improved ball hardness, and draw, tensile, and torsion strengths were prep'd. from 90-99.999% linear poly(oxymethylene) and 0.001-10% branched or crosslinked poly(oxymethylene), e.g. trioxane copolymers. Thus, 2:98 ethylene oxide-trioxane copolymer [24969-25-3] (linear) was powd. and mixed with bis(2-hydroxy-3-tert-butyl-5-methylphenyl)methane [119-47-1] 0.5, dicyandiamide [461-58-5] 0.1, and 0.2:1.8:98 1,4-butanediol **diglycidyl** ether-ethylene oxide-**trioxane** copolymer [27082-00-4] 0.08% (linear polymer), the mixt. was **blended** in an extruder at 200.deg. and granulated to give a product contg. spherulites (av. size 32 .mu.). The product had ball hardness 1600, draw strength 690, tensile strength 560, and torsion strength 8180 kg/cm², while a control (spherulite size 350 .mu.) contg. no branched terpolymer, under the same conditions had the resp. values: 1560, 650, 506, and 7600 kg/cm².

ST polyoxymethylene spherulite molding; trioxane copolymer molding; dioxolane copolymer molding
 IT Crystal nucleation

(agents, for polyoxymethylenes, branched and crosslinked polyoxymethylenes as)

IT Spherulites
 (formation of, in polyoxymethylene, agents for)

IT Epoxides
 RL: USES (Uses)
 (polymers with trioxane, nucleating agents for polyoxymethylenes)
 IT Polyoxy methylenes, properties
 RL: PRP (Properties)
 (spherulite formation in, agents for)
 IT 25068-60-4 25749-05-7 26762-35-6 27082-00-4 29088-60-6
 30527-34-5 39329-89-0 41258-86-0 41258-92-8 41258-93-9
 41258-95-1 41258-96-2 41258-97-3
 RL: USES (Uses)
 (nucleation agents, for polyoxymethylenes)
 IT 24969-25-3 24969-26-4
 RL: USES (Uses)
 (spherulite formation in moldings of, agents for)

L13 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 1965:67399 CAPLUS

DN 62:67399

OREF 62:12021h,12022a-e

TI Dispersions of synthetic polymers

PA Imperial Chemical Industries Ltd.

SO 20 pp.

DT Patent

LA Unavailable

IC C08G

CC 52 (Coatings, Inks, and Related Products)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----------------|------|----------|-----------------|------|
| PI NL 64005495 | | 19641117 | NL | |
| PRAI GB | | 19630516 | | |

AB To prep. a polymer, a mixt. of lauryl methacrylate 97, glycidyl methacrylate 3, and Bz2O2 paste (60% solids in phthalate esters) 1.5 parts was added in 5 hrs. to 200 parts ligoine b. 100-20.degree. under N and refluxed for an addnl. 1 hr. until the product contained 31.2% nonvolatile components. One part lauryldimethylamine was added and refluxed for 1.5 hrs. until the viscosity of the polymer in 0.5% C6H6 soln. at 25.degree. was 0.097 and the acid no. was 0.82 mg. KOH/g. Methacrylic acid (1.45 part) and 0.006 part hydroquinone were added and the mixt. refluxed until the acid no. was 4.25 mg. KOH/g. to give a product (I) consisted of a 31.2% soln. of a polymer having an av. mol. wt. of 30,000 and contg. about 2.2 free methacrylic acid groups per mol. To prep. a copolymer, a mixt. of I 900, methacrylate 57.5, methacrylic acid 1.5, azodi isobutyronitrile (II) 3.6, and BuOAc 486 parts was heated under N for 2 hrs. at 90.degree., 1.8 g. II added and heated for 2 hrs. at 90.degree., the copolymer was pptd. in MeOH, dried, and dissolved in CHCl3 to form a soln. (III) contg. 29.7% solid **block** polymer of poly- (lauryl methacrylate) and a Me methacrylate-methacrylic acid copolymer having an av. mol. wt. of 8000-10,000. To make a dispersion of the polymer a mixt. of III 16, 2,2-bis(4-hydroxy-phenyl)propane 8.55 (IV), terephthaloyl dichloride (V) 3.8, isophthaloyl dichloride (VI) 3.81, EtOAc 15, and CH2Cl2 90 parts was refluxed and 8.45 parts 2,6-lutidine added. After exothermic reaction subsided, a soln. of 11.41 parts V in 11.41 parts VI, and 110 parts CH2Cl2 was added, a soln. of 25.65 parts IV in 45 parts EtOAc added, 90 parts CH2Cl2, and 25.35 parts 2,6-lutidine added. After intense exothermic reaction subsided, 100 parts CH2Cl2 added, the mixt. extd. with water, the org. base soln. dild. with ligoine b. 70-90.degree. to ppt. the polymer in the form of a stabilized dispersion of fine particles. Neth. Appl. 6,405,432; 26 pp. A mixt. of n-octyl methacrylate 299.7, ethylene glycol monomethacrylate 33.3, II 6.6, and MeCOEt 333 parts was added in 2 hrs. to a soln. of 6.6 parts II in 333 parts MeCOEt under reflux. The mixt. was refluxed for 1 hr. until the nonvolatile components amounted to 31.2%. The polymers were pptd. with MeOH, dried, and dissolved in C6H6 to form a viscous syrup (VII) contg. 80% nonvolatile components. The viscosity of the polymer was 0.08 in 0.5% soln. in C6H6 at 25.degree.. To prep. a stabilized dispersion of the polymer, 2.81 parts 2,6-lutidine was added to a mixt. of VI 15.25, V 15.23, VII 21.5, and EtOAc 250 parts, the mixt.

refluxed for 1 hr., 80% of a mixt. of 33.17 parts IV in 100 parts 2,6-lutidine added, 30.9 parts 2,6-lutidine added, the remaining 20% of the diol soln. added, refluxed for 1 hr., and filtered the product to remove the ppt. The filtrate was a dispersion of the polymer having a viscosity of 0.6 in 0.5% soln. in CHCl₃ at 25.degree.. Similarly dispersed were: polymers of ethylene oxide, **trioxane**, .beta.-propiolactone, **glycidyl acetate**, Ph glycidyl ether, epichlorohydrin, .epsilon.-caprolactam, HCHO, Ph isocyanate, and a copolymer of bis(chloromethyl)oxacyclobutane and Ph glycidyl ether. The dispersions are excellent coating compns. and have better rheologic properties than those formed in an aq. medium.

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L18 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 2002:129225 CAPLUS
DN 136:184681
TI Polyacetal compositions with good sliding property and dimensional stability
IN Tajima, Yoshihisa; Okawa, Hidetoshi; Kawaguchi, Kuniaki
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-04
 ICS C08G002-18; C08L059-04; C08L053-00; C08L091-00; C08L023-26;
 C08L051-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|------|----------|-----------------|----------|
| PI | JP 2002053731 | A2 | 20020219 | JP 2000-239382 | 20000808 |
| | CN 1337423 | A | 20020227 | CN 2001-125529 | 20010808 |

PRAI JP 2000-239382 A 20000808

AB The compns., useful for sliding parts, comprise (A) 100 parts polyacetal copolymers of (a-1) 100 parts trioxane, (a-2) 0.0005-2 parts compds. having .gtoreq.2 cyclic ether units in a mol., and (a-3) 0-20 parts other copolymerizable cyclic ethers, which are **blended** with (B) 0.5-40 parts (b-1) **graft** or **block** copolymers of polyolefins with .gtoreq.1 vinyl polymers and/or (b-2) polyolefins modified with unsatd. carboxylic acid (anhydrides) and/or (C) 0.1-5 parts lubricants. Thus, a compn. contg. 100 parts 100/0.1/3.3 **trioxane** -trimethylolpropane **triglycidyl** ether-1,3-dioxolane copolymer and 5 parts acrylonitrile-ethylene-styrene **graft** copolymer showed good wear resistance against steel and polyacetals.

ST polyacetal **graft** polyolefin sliding wear resistance; dimensional stability wear resistance polyacetal **block** polyolefin **blend**; trioxane copolymer polyolefin lubricant **blend**

IT Fatty acids, properties

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(C.gtoreq.10, lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT Alcohols, properties

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(aliph., C.gtoreq.10, lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT Paraffin oils

Paraffin waxes, properties

Polysiloxanes, properties

RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT Polyolefins

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(modified; polyacetal compns. with good sliding property and dimensional stability)

IT Lubricants

(polyacetal compns. with good sliding property and dimensional stability)

IT Polyoxyethylenes, properties

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal compns. with good sliding property and dimensional stability)

IT Polymer blends
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyacetal compns. with good sliding property and dimensional stability)

IT Polyoxymethylenes, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyoxyalkylene-; polyacetal compns. with good sliding property and dimensional stability)

IT Polyoxyalkylenes, properties
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyoxyethylene-; polyacetal compns. with good sliding property and dimensional stability)

IT Machinery parts
 (sliding; polyacetal compns. with good sliding property and dimensional stability)

IT 2778-96-3, Stearyl stearate 31900-57-9D, Dimethylsilanediol homopolymer, trimethylsilyl-terminated 42557-10-8, Dimethylsilanediol homopolymer, sru, trimethylsilyl-terminated 202189-09-1, Ethylene glycol monoisostearate
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (lubricant; polyacetal compns. with good sliding property and dimensional stability)

IT 101-84-8D, Diphenyl ether, derivs.
 RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (lubricants; polyacetal compns. with good sliding property and dimensional stability)

IT 108-31-6D, **Maleic** anhydride, reaction products with polyolefins
 9002-88-4D, Polyethylene, maleated 9010-86-0D, Ethyl acrylate-ethylene copolymer, maleated 41258-95-1 106826-13-5, Acrylonitrile-ethylene-styrene **graft** copolymer 344396-24-3, 1,3-Dioxolane-pentaerythritol **tetraglycidyl** ether-**trioxane** copolymer 344396-25-4, 1,3-Dioxolane-trimethylolpropane **triglycidyl** ether-**trioxane** copolymer 344396-26-5, 1,3-Dioxolane-glycerol **triglycidyl** ether-**trioxane** copolymer 381164-85-8, Ethylene oxide-trimethylolpropane **triglycidyl** ether-**trioxane** copolymer
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (polyacetal compns. with good sliding property and dimensional stability)

L18 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:435177 CAPLUS

DN 135:20464

TI Branched polyacetal resin composition having good sliding properties

IN Tajima, Yoshihisa; Okawa, Hidetoshi; Kawaguchi, Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | WO 2001042357 | A1 | 20010614 | WO 2000-JP8543 | 20001201 |
| | W: BR, CN, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |

JP 2001164085 A2 20010619 JP 1999-346044 19991206
BR 2000007950 A 20020122 BR 2000-7950 20001201
PRAI JP 1999-346044 A 19991206
WO 2000-JP8543 W 20001201

AB A polyacetal resin material which has excellent sliding properties imparted thereto and gives a molding improved in appearance, dimensional accuracy, mech. properties, etc. The branched polyacetal compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and having specific branched units, (B) 0.5-40 parts one or more polymers selected from the group consisting of the following polymers (B-1) **graft** or **block** copolymers obtained from (b-1) an olefin polymer and (b-2) at least one vinyl polymer and polymers (B-2) modified olefin polymers obtained by modifying an olefin polymer (b-3) with at least one compds. selected from the group consisting of unsatd. carboxylic acids, unsatd. carboxylic anhydrides, and derivs. of these and/or (C) 0.1-5 parts lubricant.

ST branched polyacetal resin sliding; **trioxane glycidyl**
compd cyclic ether contg polyacetyl

IT Paraffin oils

Polysiloxanes, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)

IT Lubricants

(branched polyacetal resin compn.)

IT Polymer **blends**

RL: PRP (Properties)
(branched polyacetal resin compn.)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(polyoxyalkylene-; branched polyacetal resin compn.)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(polyoxyethylene-; branched polyacetal resin compn.)

IT 2778-96-3, Stearyl stearate 9016-00-6, Dimethylsilanediol homopolymer,
sru 31900-57-9, Dimethylsilanediol homopolymer 202189-09-1, Ethylene
glycol monoisostearate

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)

IT 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer
256337-66-3P, 1,3-Dioxolane-2-ethylhexyl **glycidyl** ether-
trioxane copolymer 262852-16-4P, 1,3-Dioxolane-**glycidyl**
stearate-**trioxane** copolymer 314262-85-6P, Butyl
glycidyl ether-ethylene oxide-**trioxane** copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(branched polyacetal resin compn.)

IT 9002-88-4D, Polyethylene, **maleic** anhydride modified
9010-86-0D, Ethylene-ethyl acrylate copolymer, **maleic** anhydride
modified 106826-13-5, Acrylonitrile-ethylene-styrene **graft**
copolymer

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(branched polyacetal resin compn.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L18 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:911349 CAPLUS

DN 134:57529

TI Polyacetal resin compositions comprising polyacetals and branched polyacetals

IN Okawa, Hidetoshi; Tajima, Yoshihisa; Kawaguchi,
Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 20 pp.

DT CODEN: PIXXD2
 LA Patent
 LA Japanese
 IC ICM C08L059-00
 ICS C08G002-22; C08L059-04
 CC 37-6 (Plastics Manufacture and Processing)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
|------|--|------|----------|-----------------|----------|--|
| PI | WO 2000078866 | A1 | 20001228 | WO 2000-JP4150 | 20000623 | |
| | W: BR, CA, CN, DE, MX, US | | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | | |
| | JP 2001002885 | A2 | 20010109 | JP 1999-177268 | 19990623 | |
| | EP 1215245 | A1 | 20020619 | EP 2000-978919 | 20000623 | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY | | | | | |
| | BR 2000007025 | A | 20011127 | BR 2000-7025 | 20000707 | |
| PRAI | JP 1999-177268 | A | 19990623 | | | |
| | WO 2000-JP4150 | W | 20000623 | | | |
| AB | <p>A polyacetal resin compn. has high rigidity and is excellent in surface hardness, sliding properties, etc. The compn. comprises 100 parts polyacetal resin (A) and 0.01-100 parts branched polyacetal copolymer (B) obtained by copolymg. 100 parts trioxane (a), 0.01-10 parts monofunctional glycidyl compd. (b), and 0-20 parts cyclic ether compd. (c) copolymerizable with trioxane. Thus, trioxane 100, Bu glycidyl ether 0.2, and 1,3-dioxolane 3.5 parts were polymd. in the presence of methylal (mol. wt. modifier) and trifluoroboron (catalyst) to give a branched polyacetal, 100 parts of which was melt kneaded with 0.03 parts pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] and 0.15 parts melamine to give pellets. Duracon M 90 (100 parts) and 5 parts branched polyacetal pellets were melt kneaded to give a polyacetal resin compn. showing flexural modulus 2590 MPa, tensile strength (ASTM D 638) 65.0 MPa, Rockwell hardness 93 (M scale), and durable sliding property.</p> | | | | | |
| ST | polyacetal resin contg trioxane glycidyl compd cyclic ether copolymer | | | | | |
| IT | <p>Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxyalkylene-, graft; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)</p> | | | | | |
| IT | <p>Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxyalkylene-; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)</p> | | | | | |
| IT | <p>Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxymethylene-, graft; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)</p> | | | | | |
| IT | <p>Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxymethylene-; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)</p> | | | | | |
| IT | <p>Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxymethylene-; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)</p> | | | | | |
| IT | <p>Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (prep. of polyacetal resin compns. comprising polyacetals and branched polyacetals)</p> | | | | | |

IT **Polymer blends**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT 256337-60-7P 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl **glycidyl ether-trioxane** copolymer 313218-20-1P 313218-21-2P 313350-58-2P 314269-97-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT 27342-38-7, Duracon M 90
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Anon; US 5929195 A CAPLUS
(2) Polyplastics Co; US 5929195 A CAPLUS
(3) Polyplastics Co; JP 439319 A 1992
(4) Polyplastics Co; JP 1135649 A 1999

=>

FILE 'CAPLUS' ENTERED AT 10:58:08 ON 03 SEP 2002

L1 245 S POLYACETAL AND FORMALDEHYDE
L2 359 S POLYACETAL? AND ?FORMALDEHYDE?
L3 8 S ?GLYCIDYL? AND L2

=>

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 1996:197046 CAPLUS

DN 124:234548

TI Manufacture of recyclable polyacetal copolymer resins for blow molding and hollow molding

IN Kawaguchi, Kuniaki; Yamamoto, Kaoru

PA Polyplastics Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G002-10

ICS B29C049-00; C08L059-00

ICI B29K261-00, B29L022-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 08012734 | A2 | 19960116 | JP 1994-146192 | 19940628 <-- |
| JP 2828903 | B2 | 19981125 | | |

AB The title resins with wt.-av. mol. wt. 1 .times. 105 - 3 .times. 105, mol. wt. .gtoreq.1 .times. 106, and shear viscosity 1.0 .times. 103 - 3.5 .times. 103 Pa-s (190.degree. shear speed 120 s-1) are constituted of branched or crosslinked polyacetal copolymers composed of (a) main chains comprising polyoxymethylene copolymers contg. oxymethylene group as main repeating units and contg. 0.2-10% C2-4 oxyalkylenes and (b) 0.01-0.2% glycidyl ether residues as branch or crosslinking parts contg. 1-10% polymer components. Thus, trioxane contg. 1,3-dioxolane 3.3, 1,4-butanediol diglycidyl ether 0.07, and methylal 0.03% was fed to a reactor with BF3.cntdot.Bu2O complex, copolymd. at 80.degree., fed to a crusher wherein Et3N soln. was also added, cooled, sepd., washed, and dried to give a crude copolymer, 100 parts of which was melt-kneaded at 205.degree. with 0.3 part Irganox 1010 and 0.15 part melamine, purified, and pelletized to give a polyacetal resin. The resin was blow-molded at 200.degree. to show the good moldability.

ST polyacetal glycidyl ether branch crosslinking moldability; hollow molding glycidyl crosslinked branched polyacetal; trioxane dioxolane methylal copolymer manuf; butanediol diglycidyl ether crosslinker trioxane copolymer; recycling polyacetal glycidyl ether copolymer

IT Polyoxy methylenes, properties

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-93-6P 175018-94-7P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)

=>

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 1996:197046 CAPLUS

DN 124:234548

TI Manufacture of recyclable polyacetal copolymer resins for blow molding and hollow molding

IN Kawaguchi, Kuniaki; Yamamoto, Kaoru

PA Polyplastics Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G002-10

ICS B29C049-00; C08L059-00

ICI B29K261-00, B29L022-00

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|--------------|
| JP 08012734 | A2 | 19960116 | JP 1994-146192 | 19940628 <-- |
| JP 2828903 | B2 | 19981125 | | |

AB The title resins with wt.-av. mol. wt. 1 .times. 105 - 3 .times. 105, mol. wt. .gtoreq.1 .times. 106, and shear viscosity 1.0 .times. 103 - 3.5 .times. 103 Pa-s (190.degree. shear speed 120 s-1) are constituted of branched or crosslinked polyacetal copolymers composed of (a) main chains comprising polyoxymethylene copolymers contg. oxymethylene group as main repeating units and contg. 0.2-10% C2-4 oxyalkylenes and (b) 0.01-0.2% glycidyl ether residues as branch or crosslinking parts contg. 1-10% polymer components. Thus, trioxane contg. 1,3-dioxolane 3.3, 1,4-butanediol diglycidyl ether 0.07, and methylal 0.03% was fed to a reactor with BF3.cntdot.Bu2O complex, copolymd. at 80.degree., fed to a crusher wherein Et3N soln. was also added, cooled, sepd., washed, and dried to give a crude copolymer, 100 parts of which was melt-kneaded at 205.degree. with 0.3 part Irganox 1010 and 0.15 part melamine, purified, and pelletized to give a polyacetal resin. The resin was blow-molded at 200.degree. to show the good moldability.

ST polyacetal glycidyl ether branch crosslinking moldability; hollow molding glycidyl crosslinked branched polyacetal; trioxane dioxolane methylal copolymer manuf; butanediol diglycidyl ether crosslinker trioxane copolymer; recycling polyacetal glycidyl ether copolymer

IT Polyoxy methylenes, properties

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)

IT 41258-95-1P, 1,4-Butanediol diglycidyl ether-1,3-dioxolane-trioxane copolymer 175018-93-6P 175018-94-7P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(manuf. of recyclable polyacetal copolymer resins for blow molding and hollow molding)

=>

L6 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:444595 CAPLUS

DN 135:34027

TI Impact-resistant branched polyacetal resin compositions

IN Okawa, Hidetoshi; Kawaguchi, Kuniaki; Tajima, Yoshihisa

PA Polyplastics Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

14 = 11

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18; C08L059-04; C08L075-04; C08L051-00

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 2001164086 | A2 | 20010619 | JP 1999-344193 | 19991203 |
| AB | Polyacetal resins (100 parts) contain 3-50 parts thermoplastic polyurethanes and core-shell polymers. Thus, pellets contained 0.3:3.3:100 Bu glycidyl ether-1,3-dioxolane-trioxane copolymer 100, a thermoplastic polyurethane 15, a stabilizer 0.03, and melamine 0.15 part. | | | | |
| ST | impact resistant polyacetal polyurethane blend; core shell polymer polyacetal impact resistant | | | | |
| IT | Polymers, uses RL: MOA (Modifier or additive use); USES (Uses) (core-shell; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Ethers, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (cyclic, polymers with trioxane; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Acetals RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (formals, cyclic, polymers with trioxane; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Impact-resistant materials (impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Polyurethanes, uses RL: MOA (Modifier or additive use); USES (Uses) (polyester-; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Polyurethanes, uses RL: MOA (Modifier or additive use); USES (Uses) (polyether-; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | Polymerization (ring-opening; impact-resistant branched polyacetal resin compns. contg. polyurethanes and core-shell polymers) | | | | |
| IT | 31075-01-1P, 1,3-Dioxolane-glycidyl phenyl ether-trioxane copolymer 256337-60-7P, 1,3-Dioxolane-glycidyl o-phenylphenol ether-trioxane copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 2-Ethylhexyl glycidyl ether-1,3-dioxolane-trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene oxide-trioxane copolymer 342896-46-2P, Cresyl glycidyl ether-1,3-dioxolane-trioxane copolymer RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (impact-resistant branched polyacetal resin compns. contg.) | | | | |

polyurethanes and core-shell polymers)
IT 170618-16-3, PO 0135
RL: MOA (Modifier or additive use); USES (Uses)
(impact-resistant branched polyacetal resin compns. contg.
polyurethanes and core-shell polymers)

L6 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:442283 CAPLUS
DN 135:34016
TI Branched polyacetal resin compositions having stable electric conductivity
IN Kawaguchi, Kuniaki; Okawa, Hidetoshi; Tajima, Yoshihisa
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM C08L059-04
ICS C08K003-04; C08K007-06; C08G002-38
CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 2001164088 | A2 | 20010619 | JP 1999-348342 | 19991208 |
| AB | The title compns. contain 0.1-30 phr carbon black and/or carbon fibers. Thus, pellets contained 3.4:0.3:100 1,3-dioxolane-glycidyl Ph ether-trioxane copolymer 100, Ketjen Black ECX 10, and a stabilizer 0.15 part. | | | | |
| ST | elec cond polyacetal carbon black; fiber carbon polyacetal elec cond; trioxane dioxolane glycidyl ether copolymer | | | | |
| IT | Carbon black, uses RL: MOA (Modifier or additive use); USES (Uses) (Ketjen Black ECX; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Electric conductivity Electric conductors (branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Polyoxymethylenes, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Carbon fibers, uses RL: MOA (Modifier or additive use); USES (Uses) (branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Ethers, preparation RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (cyclic, polymers with trioxane; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Acetals RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (formals, cyclic, polymers with trioxane; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Epoxides RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses) (polymers with trioxane; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | Polymerization (ring-opening; branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.) | | | | |
| IT | 31075-01-1P, 1,3-Dioxolane-glycidyl phenyl ether-trioxane copolymer 134245-74-2P, Ethylene oxide-glycidyl phenyl ether-trioxane copolymer | | | | |

256337-60-7P, 1,3-Dioxolane-glycidyl o-phenylphenol ether-trioxane copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)
(branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)

IT 320381-64-4, HTA-C 6US

RL: MOA (Modifier or additive use); USES (Uses)
(branched polyacetal resin compns. contg. carbon black and carbon fibers having stable elec. cond.)

L6 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2001:435177 CAPLUS

DN 135:20464

TI Branched polyacetal resin composition having good sliding properties
IN Tajima, Yoshihisa; Okawa, Hidetoshi; Kawaguchi,
Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-04

ICS C08G002-18

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | WO 2001042357 | A1 | 20010614 | WO 2000-JP8543 | 20001201 |
| | W: BR, CN, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| | JP 2001164085 | A2 | 20010619 | JP 1999-346044 | 19991206 |
| | BR 2000007950 | A | 20020122 | BR 2000-7950 | 20001201 |

PRAI JP 1999-346044 A 19991206
WO 2000-JP8543 W 20001201

AB A polyacetal resin material which has excellent sliding properties imparted thereto and gives a molding improved in appearance, dimensional accuracy, mech. properties, etc. The branched polyacetal compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and having specific branched units, (B) 0.5-40 parts one or more polymers selected from the group consisting of the following polymers (B-1) graft or block copolymers obtained from (b-1) an olefin polymer and (b-2) at least one vinyl polymer and polymers (B-2) modified olefin polymers obtained by modifying an olefin polymer (b-3) with at least one compds. selected from the group consisting of unsatd. carboxylic acids, unsatd. carboxylic anhydrides, and derivs. of these and/or (C) 0.1-5 parts lubricant.

ST branched polyacetal resin sliding; trioxane glycidyl compd cyclic ether
contg polyacetyl

IT Paraffin oils

Polysiloxanes, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)

IT Lubricants
(branched polyacetal resin compn.)

IT Polymer blends

RL: PRP (Properties)

(branched polyacetal resin compn.)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)

(polyoxyalkylene-; branched polyacetal resin compn.)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); PREP (Preparation); USES (Uses)

(polyoxymethylene-; branched polyacetal resin compn.)
IT 2778-96-3, Stearyl stearate 9016-00-6, Dimethylsilanediol homopolymer,
. sru 31900-57-9, Dimethylsilanediol homopolymer 202189-09-1, Ethylene
glycol monoisostearate
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Lubricants; branched polyacetal resin compn.)
IT 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer
256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl ether-trioxane copolymer
262852-16-4P, 1,3-Dioxolane-glycidyl stearate-trioxane copolymer
314262-85-6P, Butyl glycidyl ether-ethylene oxide-trioxane copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
(Properties); PREP (Preparation); USES (Uses)
(branched polyacetal resin.compn.)
IT 9002-88-4D, Polyethylene, maleic anhydride modified 9010-86-0D,
Ethylene-ethyl acrylate copolymer, maleic anhydride modified
106826-13-5, Acrylonitrile-ethylene-styrene graft copolymer
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(branched polyacetal resin compn.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L6 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:417074 CAPLUS
DN 135:20453
TI Branched polyacetal resin composition having good wreathing stability
IN Kawaguchi, Kuniaki; Okawa, Hidetoshi; Tajima, Yoshihisa
PA Polyplastics Co., Ltd., Japan
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C08L059-04
ICS C08G002-18; C08K005-18
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 2001040376 | A1 | 20010607 | WO 2000-JP8541 | 20001201 |
| | W: BR, CN, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, | | | | |
| | PT, SE, TR | | | | |
| | JP 2001164087 | A2 | 20010619 | JP 1999-344194 | 19991203 |
| | BR 2000007948 | A | 20020129 | BR 2000-7948 | 20001201 |
| PRAI | JP 1999-344194 | A | 19991203 | | |
| | WO 2000-JP8541 | W | 20001201 | | |

AB A resin material which has improved weathering (light) stability while retaining excellent properties inherent in a polyacetal resin, such as appearance and rigidity. The branched polyacetal resin compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and branched units represented by -(CH₂)_mCH(R)(CH₂)_nO-, where m, n = integer 0-5 provided m + n = 1-5 and R = monovalent org. group having a mol. wt. 40-1,000, and (B) 0.01-5 parts weathering (light) stabilizer (C) 0.01-5 parts hindered amine substance. Thus, trioxane 100, Bu glycidyl ether 0.2, and 1,3-dioxolane 3.4 parts were polymd., 100 parts of which was blended with 0.2 parts 2-[2-hydroxy-3,5-bis(.alpha.,.alpha.-dimethylbenzyl)phenyl]benzotriazole and 0.2 parts bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate, melt kneaded at 210.degree. to give a resin compn.

ST branched polyacetal resin contg trioxane glycidyl compd cyclic ether
IT Amines, uses

RL: MOA (Modifier or additive use); USES (Uses)
(hindered; prepn. of branched polyacetal resin compn. having good wreathing stability)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
(polyoxyalkylene-; prepn. of branched polyacetal resin compn. having

good wreathing stability)
IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(polyoxymethylene-; prepn. of branched polyacetal resin compn. having
good wreathing stability)
IT Light stabilizers
(prepn. of branched polyacetal resin compn. having good wreathing
stability)
IT 52829-07-9, Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 65447-77-0
RL: MOA (Modifier or additive use); USES (Uses)
(hindered amine; prepn. of branched polyacetal resin compn. having good
wreathing stability)
IT 53774-08-6, 2-Hydroxy-4-oxybenzylbenzophenone 70321-86-7
RL: MOA (Modifier or additive use); USES (Uses)
(light stabilizer; prepn. of branched polyacetal resin compn. having
good wreathing stability)
IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
256337-60-7P 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl
ether-trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene
oxide-trioxane copolymer
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of branched polyacetal resin compn. having good wreathing
stability)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L6 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:417073 CAPLUS
DN 135:20452
TI Branched polyacetal resin compositions having good antistatic properties
IN Okawa, Hidetoshi; Kawaguchi, Kuniaki; Tajima, Yoshihisa
PA Polyplastics Co., Ltd., Japan
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
IC ICM C08L059-04
ICS C08G002-18; C08K005-103; C08L059-04; C08L071-02
CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | WO 2001040375 | A1 | 20010607 | WO 2000-JP8540 | 20001201 |
| | W: BR, CN, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| | JP 2001158850 | A2 | 20010612 | JP 1999-343617 | 19991202 |
| | BR 2000007947 | A | 20020129 | BR 2000-7947 | 20001201 |
| PRAI | JP 1999-343617 | A | 19991202 | | |
| | WO 2000-JP8540 | W | 20001201 | | |

AB A resin material which has antistatic properties imparted thereto while retaining excellent properties inherent in a polyacetal resin, such as appearance and rigidity. The branched polyacetal resin compn. comprises (A) 100 parts branched polyacetal copolymer having oxymethylene groups as the main repeating units and branched units represented by -(CH₂)_mCH(R)(CH₂)_nO-, where m, n = integer 0-5 provided m + n = 1-5 and R = monovalent org. group having a mol. wt. 40-1,000, and (B) 0.1-30 parts a compd. having polyalkylene ether unit as a main component and/or (C) 0.01-10 parts hydroxylated ester of a fatty acid with a polyhydric alc. Thus, trioxand 100, Bu glycidyl ether 0.3, and 1,3-dioxolane 3.3 parts were polymd., 100 parts of which was blended with 5 parts polyethylene glycol, melt kneaded at 210.degree. to give a resin compn. showing tensile strength 61 MPa, flexural modulus 2350 MPa, and surface resistance 5.7 .times. 10¹².

ST branched polyacetal resin antistatic

IT Polyoxyalkylenes, uses
RL: POF (Polymer in formulation); USES (Uses)
(branched polyacetal resin compn.)
IT Acetals
RL: IMF (Industrial manufacture); PREP (Preparation)
(polymers; branched polyacetal resin compn.)
IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
256337-60-7P, 1,3-Dioxolane-2-phenylphenol glycidyl ether-trioxane
copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
copolymer 256337-66-3P, 2-Ethylhexyl glycidyl ether-1,3-dioxolane-
trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene
oxide-trioxane copolymer 342896-46-2P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PREP
(Preparation); USES (Uses)
(branched polyacetal resin compn.)
IT 25190-06-1, Poly(tetramethylene glycol) 25322-68-3, Polyethylene glycol
25322-69-4, Polypropylene glycol 27215-38-9, Glycerin monolaurate
31566-31-1, Glycerin monostearate
RL: POF (Polymer in formulation); USES (Uses)
(branched polyacetal resin compn.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Polyplastics Co; JP 08012734 A 1996 CAPLUS

L6 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:235643 CAPLUS
DN 134:267040
TI Branched polyacetal compositions with balanced toughness and rigidness
IN Tajima, Yoshihisa; Okawa, Hidetoshi; Kawaguchi,
Kuniaki
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-00
ICS C08G002-18; C08K003-00
CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|----------|
| PI | JP 2001089631 | A2 | 20010403 | JP 1999-270102 | 19990924 |
| AB | The compns. comprise (A) 100 parts polyacetals contg. branched repeating units $(CH_2)_mCHR(CH_2)_nO$ ($m, n = 0-5$; $m + n = 1-5$; R = monoaliphatic org. group with mol. wt. 40-1000) and (B) 2-100 parts inorg. fillers. Thus, a compn. comprising 100 parts trioxane-Bu glycidyl ether-1,3-dioxolane copolymer and 30 parts glass fibers was injection-molded to give a test piece showing tensile strength 128 MPa, elongation 3.4%, flexural modulus 7.6 GPa, and deflection temp. under load 165.degree.. | | | | |
| ST | branch polyacetal glass fiber toughness; trioxane dioxolane glycidyl ether polyacetal rigidness | | | | |
| IT | Carbon fibers, uses Glass beads Glass fibers, uses Mica-group minerals, uses RL: MOA (Modifier or additive use); USES (Uses) (branched polyacetal compns. with balanced toughness and rigidness) | | | | |
| IT | Reinforced plastics RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (fiber-reinforced; branched polyacetal compns. with balanced toughness and rigidness) | | | | |
| IT | Glass, uses RL: MOA (Modifier or additive use); USES (Uses) (flakes; branched polyacetal compns. with balanced toughness and rigidness) | | | | |
| IT | Clays, uses | | | | |

RL: MOA (Modifier or additive use); USES (Uses)
 (kaolininitic; branched polyacetal compns. with balanced toughness and
 rigidness)
 IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (polyoxymethylene-; branched polyacetal compns. with balanced toughness
 and rigidness)
 IT Polyoxyalkylenes, preparation
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (polyoxyalkylene-; branched polyacetal compns. with balanced toughness
 and rigidness)
 IT Synthetic fibers
 RL: MOA (Modifier or additive use); USES (Uses)
 (potassium titanate; branched polyacetal compns. with balanced
 toughness and rigidness)
 IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
 256337-60-7P, 1,3-Dioxolane-o-phenylphenyl glycidyl ether-trioxane
 copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
 copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl
 ether-trioxane copolymer 262852-16-4P, 1,3-Dioxolane-glycidyl
 stearate-trioxane copolymer 314262-85-6P, Butyl glycidyl ether-ethylene
 oxide-trioxane copolymer 331846-75-4P
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (branched polyacetal compns. with balanced toughness and rigidness)
 IT 471-34-1, Calcium carbonate, uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (branched polyacetal compns. with balanced toughness and rigidness)
 IT 12673-69-7, Potassium titanate
 RL: MOA (Modifier or additive use); USES (Uses)
 (fibers; branched polyacetal compns. with balanced toughness and
 rigidness)

L6 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:89649 CAPLUS
 DN 134:132732
 TI Polyacetals with well-balanced flowability and draw-down property and
 their blow moldings
 IN Kawaguchi, Kuniaki; Okawa, Hidetoshi; Tajima, Yoshihisa
 PA Polyplastics Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G002-22
 ICS C08G002-18; C08G065-26; B29C049-04; B29K059-00
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 37

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|----------|
| PI | JP 2001031732 | A2 | 20010206 | JP 1999-209049 | 19990723 |
| AB | Title polyacetals are obtained by polymn. of (A) trioxane 100, (B) cyclic ethers and/or cyclic formals 0-20, (C) monofunctional glycidyl compds. 0.001-10, and (D) polyfunctional glycidyl compds. 0.0005-1 part. Thus, 1,3-dioxolane 3.3, phenylphenol glycidyl ether 0.02, 1,4-butanediol diglycidyl ether 0.05, and trioxane 100 parts were polymd. in the presence of BF ₃ to give a polyacetal, 100 parts of which were melt kneaded with 0.45 part stabilizers, pelletized, and blow molded to give a box showing high impact strength and good surface smoothness. | | | | |
| ST | branched polyacetal draw down property; crosslinked polyacetal flowability blow molding; blow molding polyacetal impact resistance; surface | | | | |

IT smoothness polyacetal blow molding container
IT Molded plastics, uses
 RL: DEV (Device component use); PRP (Properties); TEM (Technical or
 engineered material use); USES (Uses)
 (blow; polyacetals with well-balanced flowability and draw-down
 property and their impact-resistant smooth blow moldings)
IT Containers
 (boxes; polyacetals with well-balanced flowability and draw-down
 property and their impact-resistant smooth blow moldings)
IT Polyoxymethylenes, uses
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (branched and/or crosslinked; polyacetals with well-balanced
 flowability and draw-down property and their impact-resistant smooth
 blow moldings)
IT Impact-resistant materials
 (polyacetals with well-balanced flowability and draw-down property and
 their impact-resistant smooth blow moldings)
IT 322399-74-6P 322399-75-7P 322399-76-8P 322399-77-9P 322399-78-0P
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); TEM (Technical or engineered material use); PREP
 (Preparation); USES (Uses)
 (polyacetals with well-balanced flowability and draw-down property and
 their impact-resistant smooth blow moldings)
IT 7637-07-2, Boron trifluoride, uses
 RL: CAT (Catalyst use); USES (Uses)
 (polymn. catalysts; polyacetals with well-balanced flowability and
 draw-down property and their impact-resistant smooth blow moldings)

L6 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2002 ACS
AN 2001:19055 CAPLUS
DN 134:72411
TI Branched polyacetal compositions
IN Okawa, Hidetoshi; Tajima, Yoshihisa; Kawaguchi,
 Kuniaki
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-04
 ICS C08G002-10
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

PI JP 2001002886 A2 20010109 JP 1999-177269 19990623
AB The title compns., with good rigidity, surface hardness, and sliding
 property, comprise (a) 100 parts branched polyacetals derived from
 trioxane 100, monoglycidyl compds. (e.g., Bu glycidyl ether, 2-ethylhexyl
 glycidyl ether, o-phenylphenol glycidyl ether, m,p-cresyl glycidyl ether)
 0.01-10, and cyclic ethers (e.g., ethylene oxide, 1,3-dioxolane) 0-20
 parts and (b) 0.1-100 parts polyacetals (e.g., Duracon M 90).
ST rigidity branched polyacetal compn; surface hardness branched polyacetal
 compn; sliding property branched polyacetal compn; trioxane monoglycidyl
 compd dioxolane copolymer polyacetal
IT Bending strength
 Hardness (mechanical)
 Tensile strength
 (branched polyacetal compns.)
IT Polymer blends
 Polyoxymethylenes, properties
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (branched polyacetal compns.)
IT 27342-38-7, Duracon M 90
 RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(Duracon M 90; branched polyacetal compns.)
IT 256337-60-7, 1,3-Dioxolane-o-phenylphenol glycidyl ether-trioxane copolymer 256337-65-2, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3, 1,3-Dioxolane-2-ethylhexyl glycidyl ether-trioxane copolymer 313218-20-1, 1,3-Dioxolane-4-methoxyphenyl glycidyl ether-trioxane copolymer 314269-96-0, p-Cresyl glycidyl ether-1,3-dioxolane-trioxane copolymer 314269-97-1, 1,3-Dioxolane-phenylpropylene oxide glycidyl ether-trioxane copolymer 314269-98-2, 1,3-Dioxolane-ethoxidized lauryl glycidyl ether-trioxane copolymer
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(branched polyacetal compns.)

L6 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2000:911349 CAPLUS

DN 134:57529

TI Polyacetal resin compositions comprising polyacetals and branched polyacetals

IN Okawa, Hidetoshi; Tajima, Yoshihisa; Kawaguchi, Kuniaki

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08L059-00

ICS C08G002-22; C08L059-04

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|--|----------|-----------------|--------------|
| PI | WO 2000078866 | A1 | 20001228 | WO 2000-JP4150 | 20000623 |
| | W: | BR, CA, CN, DE, MX, US | | | |
| | RW: | AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | |
| JP | 2001002885 | A2 | 20010109 | JP 1999-177268 | 19990623 |
| EP | 1215245 | A1 | 20020619 | EP 2000-978919 | 20000623 |
| | R: | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY | | | |
| | BR | 2000007025 | A | 20011127 | BR 2000-7025 |
| PRAI | JP 1999-177268 | A | 19990623 | | |
| | WO | 2000-JP4150 | W | 20000623 | |

AB A polyacetal resin compn. has high rigidity and is excellent in surface hardness, sliding properties, etc. The compn. comprises 100 parts polyacetal resin (A) and 0.01-100 parts branched polyacetal copolymer (B) obtained by copolymg. 100 parts trioxane (a), 0.01-10 parts monofunctional glycidyl compd. (b), and 0-20 parts cyclic ether compd. (c) copolymerizable with trioxane. Thus, trioxane 100, Bu glycidyl ether 0.2, and 1,3-dioxolane 3.5 parts were polymd. in the presence of methylal (mol. wt. modifier) and trifluoroboron (catalyst) to give a branched polyacetal, 100 parts of which was melt kneaded with 0.03 parts pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate] and 0.15 parts melamine to give pellets. Duracon M 90 (100 parts) and 5 parts branched polyacetal pellets were melt kneaded to give a polyacetal resin compn. showing flexural modulus 2590 MPa, tensile strength (ASTM D 638) 65.0 MPa, Rockwell hardness 93 (M scale), and durable sliding property.

ST polyacetal resin contg trioxane glycidyl compd cyclic ether copolymer
IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyoxyalkylene-, graft; prepn. of polyacetal resin compns. comprising polyacetals and branched polyacetals)

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyoxyalkylene-; prepn. of polyacetal resin compns. comprising

polyacetals and branched polyacetals)
IT Polyoxyalkylenes, preparation
. RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-, graft; prepn. of polyacetal resin compns.
 comprising polyacetals and branched polyacetals)
IT Polyoxyalkylenes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyoxymethylene-; prepn. of polyacetal resin compns. comprising
 polyacetals and branched polyacetals)
IT Polyoxymethylenes, preparation
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched
 polyacetals)
IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched
 polyacetals)
IT 256337-60-7P 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane
copolymer 256337-66-3P, 1,3-Dioxolane-2-ethylhexyl glycidyl
ether-trioxane copolymer 313218-20-1P 313218-21-2P 313350-58-2P
314269-97-1P
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched
 polyacetals)
IT 27342-38-7, Duracon M 90
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or
engineered material use); USES (Uses)
 (prepn. of polyacetal resin compns. comprising polyacetals and branched
 polyacetals)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
(1) Anon; US 5929195 A CAPLUS

(2) Polyplastics Co; US 5929195 A CAPLUS

(3) Polyplastics Co; JP 439319 A 1992

(4) Polyplastics Co; JP 1135649 A 1999

L6 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666796 CAPLUS

DN 133:252899

TI Polyacetal copolymers and their manufacture

IN Tajima, Yoshihisa; Okawa, Hidetoshi

PA Polyplastics Co., Ltd., Japan

SO PCT Int. Appl., 17 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM C08G002-18

CC 35-7 (Chemistry of Synthetic High Polymers)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|----------|
| WO 2000055227 | A1 | 20000921 | WO 2000-JP1532 | 20000314 |
| W: BR, CA, MX, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| JP 2000264940 | A2 | 20000926 | JP 1999-68703 | 19990315 |
| EP 1167409 | A1 | 20020102 | EP 2000-936518 | 20000314 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, | | | | |

IE, FI
 US 6426393 B1 20020730 US 2001-762064 20010201
 PRAI JP 1999-68703 A 19990315
 WO 2000-JP1532 W 20000314
 AB Polyacetal copolymers with improved thermal stability and processibility are prep'd. by polymg. (a) 100 parts of trioxane, (b) 0.05-20 parts of other cyclic ethers which are polymerizable with trioxane, and (c) 0.001-10 parts of a monofunctional glycidyl compd. with chlorine content below 0.3 wt.%. Thus a Bu glycidyl ether-1,3-dioxolane-trioxane copolymer was prep'd. by bulk polymn. to provide a polyacetal polymer with Izod impact resistance of 72 J/m.
 ST trioxane butyl glycidyl ether dioxolane copolymer manuf; polyoxymethylene manuf trioxane polymn
 IT Polyoxymethylenes, preparation
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetal copolymers and their manuf.)
 IT 31075-01-1P, 1,3-Dioxolane-phenyl glycidyl ether-trioxane copolymer
 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer
 256337-66-3P 294888-85-0P
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (polyacetal copolymers and their manuf.)
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE
 (1) Mitsubishi Gas Chem Co Inc; JP 02214714 A 1990 CAPLUS
 (2) Polyplastics Co; US 5929195 A CAPLUS
 (3) Polyplastics Co; JP 1135649 A 1999
 (4) Toray Ind Inc; JP 04266917 A 1992 CAPLUS
 L6 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:84878 CAPLUS
 DN 132:123088
 TI Copolyacetal resins with good rigidity, surface hardness and creep and sliding property
 IN Okawa, Hidetoshi; Tajima, Yoshihisa
 PA Polyplastics Co., Ltd., Japan
 SO PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 IC ICM C08G002-22
 CC 35-7 (Chemistry of Synthetic High Polymers)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | WO 2000005285 | A1 | 20000203 | WO 1999-JP3966 | 19990723 |
| | W: CN, KR, US | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | JP 2000038429 | A2 | 20000208 | JP 1998-209764 | 19980724 |
| | JP 2000095829 | A2 | 20000404 | JP 1999-207314 | 19990722 |
| | JP 2000095830 | A2 | 20000404 | JP 1999-207315 | 19990722 |
| | EP 1120431 | A1 | 20010801 | EP 1999-931519 | 19990723 |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| | US 6255440 | B1 | 20010703 | US 2000-646752 | 20000921 |
| PRAI | JP 1998-209762 | A | 19980724 | | |
| | JP 1998-209763 | A | 19980724 | | |
| | JP 1998-209764 | A | 19980724 | | |
| | WO 1999-JP3966 | W | 19990723 | | |
| AB | The resins are obtained by copolymg. (A) 100 parts of trioxane with (B) 0.01-10 parts of glycidyl ethers of C1-12 alkyl or aryl-substituted phenol compds., of polyalkylene glycol monophenyl ethers or/and of (optionally via polyalkylene glycol group) mono-C1-30 alkyl ethers and 0-20 parts of a cyclic ether compd. copolymerizable with trioxane other than the compds. in B. Thus, bulk polymn. of trioxane 100 with p-tert-butylphenyl glycidyl | | | | |

ether 2.50 and 1,3-dioxolane 2.57 parts in the presence of methylal and BF₃-di-Bu etherate in Bu₂O gave a polyacetal resin which was kneaded with 4% a 5% aq. soln. of Et₃N and 0.3% pentaerythritol tetrakis[3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate] (I) at 210.degree. while removing unstable component, then pelletized with 0.03 phr I and 0.15 melamine to give pellets. Molded test pieces from the pellets had Avrami index 3, tensile strength 62.6 MPa, flexural strength 2631 MPa and Rockwell hardness (M scale) 92.2.

ST rigidity surface hardness property polyacetal resin; sliding property polyoxymethylene resin; trioxane dioxolane copolyacetal resin

IT Polyoxymethylenes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(copolyacetal resins with good rigidity, surface hardness and creep and sliding property).

IT 256337-59-4P, 1,3-Dioxolane-p-tert-butylphenyl glycidyl ether-trioxane copolymer 256337-60-7P, 1,3-Dioxolane-o-phenylphenyl glycidyl ether-trioxane copolymer 256337-61-8P, 1,3-Dioxolane-polyethylene glycol glycidyl phenyl ether-trioxane copolymer 256337-62-9P, Benzyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-64-1P, 1,3-Dioxolane-2-phenoxy-1-methylethyl glycidyl ether-trioxane copolymer 256337-65-2P, Butyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-66-3P, 2-Ethylhexyl glycidyl ether-1,3-dioxolane-trioxane copolymer 256337-67-4P, 1,3-Dioxolane-2-methyloctyl glycidyl ether-trioxane copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(copolyacetal resins with good rigidity, surface hardness and creep and sliding property)

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